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ABSTRACT

This document is a two-part monograph included in a series that presents concepts and practices reflecting an analysis of programs to prepare general and special education personnel. The first section of this monograph, entitled "The Development and Diffusion of 'Mainstreaming' Approaches," discusses procedures for developing, disseminating, installing, and maintaining prototype mainstreaming approaches. An examination of these procedures includes a discussion of a) four developmental steps, b) factors which must be dealt with in planning strategies for institutional change, c) a proposal for facilitating national diffusion, and d) an example of a local diffusion strategy using master or specialist teachers as change agents. The second section of this monograph is entitled "The Preparation of Change Agents Who Can Diffuse 'Mainstreaming' Approaches." Its purpose is to describe the pilot program implemented to prepare change agents and to discuss the implications derived from these findings that have relevance for future preparation of such personnel. Topics discussed are the selection of participants, program rationale, instructional content and process, and program evaluation. (PD)

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FACILITATING EDUCATIONAL CHANGE

AND

PREPARING CHANGE AGENTS

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CG 007 942

Preface

The document you are about to read was prepared as part of a Special Project funded by the Division of Training, BEH, USOE. This preface (1) describes the general frame of reference from which we approach the concerns of special education, (2) summarizes the major products produced as part of the Special Project activity, and (3) acknowledges those dedicated persons without whom the project could not have been undertaken.

A General Frame of Reference[1]

It is unfortunate that special educators continue to deal with major topics, such as classroom instruction and personnel preparation, as if these topics were unique to special education or a specific category of exceptionality. A major effort needs to be made to avoid contributing further to the erroneous impression that the concerns of general and special education (and of the various areas of special education) are mutually exclusive and/or substantively different. This impression is not only false, but leads to the harmful impression that general and special educators (and various groups of special educators and other professionals) have little to contribute to each other.

It seems reasonable to suggest that, in reality, the concerns of

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[1]Some of the discussion which follows also appears in an article by the author entitled "The relationship between general and special education," (Academic Therapy, 1972, VII, 323-326).

special education are best viewed within the framework of a conceptualization of the basic concerns confronting the American system of formal education. Figure A represents my attempt to summarize these basic concerns and the relationship between general and special education with reference to these concerns. Broadly and practically stated, the basic programmatic concerns are:

1) What should be the role (nature and scope) of formal education in America today and what changes should be considered for the future?
2) What and how should we teach?
3) What types of personnel (roles and functions) are necessary for accomplishing the desired goals of formal education?
4) How can we best recruit, educate, and retain the high level of personnel necessary for ensuring high quality education?

It seems clear that these questions are so closely interwoven that the manner in which any one is answered has profound implications for the others, e.g., the role one establishes for the schools provides the basis for determining the instructional content and process which, in turn, should clarify the personnel required and their training needs. And, of course, any position taken with regard to these questions raises the concern over evaluation, i.e., what and how to describe and judge the positions which have been and currently are being postulated as answers to education's basic concerns.

Finally, with reference to the relationship between general and

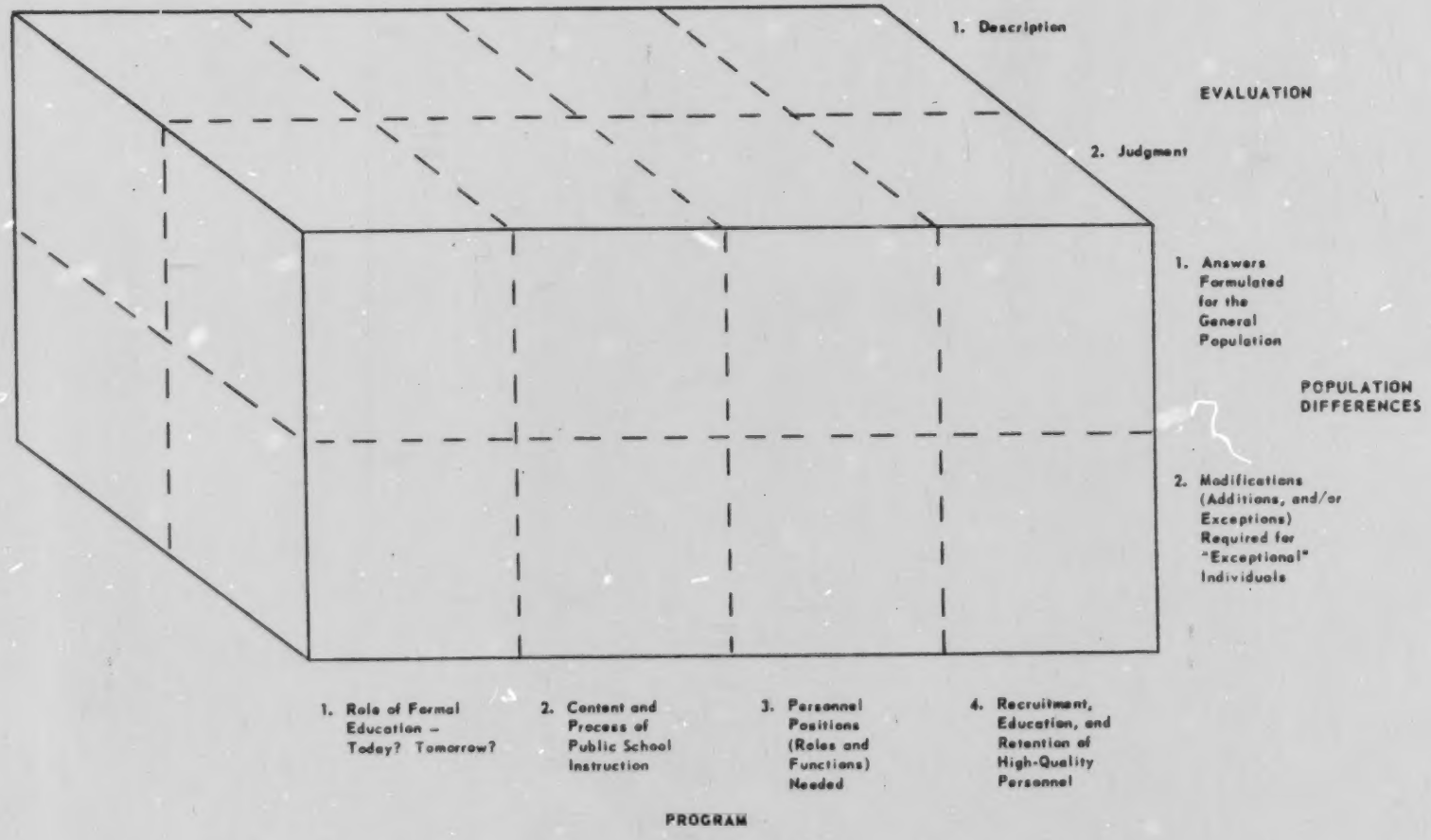
1. Description
EVALUATION
2. Judgment
1. Answers Formulated for the General Population
POPULATION DIFFERENCES
2. Modifications (Additions, and/or Exceptions) Required for "Exceptional" Individuals
1. Role of Formal Education – Today? Tomorrow?
2. Content and Process of Public School Instruction
3. Personnel Positions (Roles and Functions) Needed
4. Recruitment, Education, and Retention of High-Quality Personnel
PROGRAM

Figure A. Basic Concerns Confronting the American System of Education

special education, it is felt that the major issues and problems[2] encompassed by the above-stated concerns are substantively the same for both sub-fields of education. However, since an answer formulated for the majority population may require modifications (additions and/or exceptions) when applied to exceptional individuals, special education is confronted with the additional concern of clarifying rationally and empirically such modifications.

From a conceptual viewpoint, then, it seems reasonable to suggest that the systematic resolution of the basic concerns confronting the education system (see Figure A) requires, first, formulation of answers with reference to the general population and, second, clarification of the modifications required with reference to all and/or specific groups of exceptional individuals. In practice, of course, such a systematic approach is not always feasible. Thus, special educators often find it necessary to work in an area of concern where major issues and problems have been resolved for the general population in ways which special educators view as unacceptable or where answers simply are nonexistent. In such instances, whether or not it is explicitly understood and stated, special educators are forced to deal with issues and problems which are common to both general and special education, and therefore, the answers formulated have application for both the majority population and exceptional individuals. That is to say, such answers will necessarily

[2]The term concern is used to delineate a broad area of focus; the term issue is used to delineate a sub-area over which there is theoretical and/or procedural disagreement; and the term problem is used to delineate a sub-area over which there is no disagreement, but there is difficulty in formulating an appropriate solution.

be either modified versions of answers which have direct application to the general population or they will be directly applicable as formulated.

(Unfortunately, the application of such answers to the general population often is not made because the special educator has not discussed his work's relationship to general education. It is for this reason that many of special education's potential contributions to general education are lost. Equally as unfortunate is the waste which accrues from the failure of special educators to build upon the foundation laid by their colleagues in general education. With regard to a wide variety of questions related to the education of exceptional individuals, it is not uncommon for special educators to approach such concerns [issues and problems] as if the questions raised were new and unique, rather than simply being specialized versions of more basic questions which have long confronted general education. As a result, special educators too often needlessly redo work previously accomplished by general educators, both groups initiate parallel activities, and, in general, progress in both sub-fields of education is hindered. [Analogous implications, of course, could be discussed with reference to the interrelationships between the various categories of exceptionality.])

The preceding views should clarify for the reader the orientation with which I approach such questions as:

1) What is the nature of the heterogeneity which exists in such populations of pupils currently categorized as learning disabled, emotionally disturbed, educationally handicapped, disadvantaged, and so forth, and what are the implications of this heterogeneity for service, training, and research?

2) What and how should we teach these pupils?

3) Do we need specialist teachers?

4) How should we educate personnel to ensure high quality classroom programs which meet the needs of such pupils?

5) How should we evaluate the educational programs which serve such pupils and the programs which prepare the needed professionals?

Products

In the various written products resulting from project activity, some ideas and experiences are shared which have a bearing on these and other related matters. What is presented is neither rooted solely in special education nor intended only for special educators. The concepts and practices reflect an analysis of general and special education classroom and personnel preparation programs; the implications which are suggested are for regular and special classroom instruction and regular and special personnel preparation programs. It is, indeed, my hope that the various products will have some heuristic value for any reader and for the field at large. These products are:

I. Competency-Based Training in Education: a conceptual view--This monograph presents a conceptual model of the major phases and tasks involved in planning, implementing, and evaluating personnel preparation programs in the field of education. Specifically, seven phases are discussed: (1) the formulation of the program rationale, (2) curricular planning, (3) evaluational planning, (4) administrative planning, (5) instructional planning, (6) program implementation, (7) program

evaluation. Key references are provided to resources which have relevance for each phase. Also discussed are: the view that competency-based training is an important but insufficient orientation to personnel preparation, and some ideas related to the development and diffusion of prototype models. Included in the appendices are: references for competency-based and other related personnel preparation program models, a representation of the sequence of major tasks involved in planning, implementing, and evaluating a school system program, a table describing sources of information and materials, and brief discussions of three important topics related to personnel preparation--"Recruiting and Maintaining Education Professionals," "Some Specific Implications for the Preparation of Teachers," and "Criteria for Admission to Preparation Programs and Accredited Professional Standing."

II. Facilitating Educational Change and Preparing Change Agents--This monograph is divided into two parts. The first part, entitled "The Development and Diffusion of 'Mainstreaming' Approaches," is devoted to a discussion of procedures by which prototype mainstreaming approaches might be developed, disseminated, installed, and maintained. More specifically, (1) four major developmental steps are discussed, (2) factors which must be dealt with in planning strategies for institutional change are identified, (3) a proposal for facilitating national diffusion is suggested, and (4) an example of a local diffusion strategy using master or specialist teachers as change agents is described.

The second part of this monograph is entitled "The Preparation of Change Agents Who Can Diffuse 'Mainstreaming' Approaches." The dual

purpose of this section is (1) to describe the pilot program we implemented to prepare change agents and (2) to discuss the implications derived from our experiences and findings which have relevance for the future preparation of such personnel. Topics discussed are the selection of participants, program rationale, instructional content and process, and program evaluation.

III. Learning Problems and Classroom Instruction--This monograph presents our orientation to the topic of youngsters with learning/behavior problems and to the question regarding what teachers should do with such youngsters. The primary emphasis is on conceptualizing the classroom needs of groups assigned labels such as learning disabled, emotionally disturbed, educationally handicapped, and culturally disadvantaged. The conceptualization which evolves is based on the view that each of these categories encompasses an extremely heterogeneous group of youngsters--ranging from those who do have major disorders-deficits which interfere with their learning to those whose learning and behavioral problems stem primarily from the deficiencies of the school system. This view of the heterogeneity which exists within such exceptional children groupings leads us to suggest some very specific implications for diagnosis, remediation, and prevention, and these implications, in turn, lead to a discussion of implications for teacher education and accountability.

More specifically, part 1 ("Learning Problems Revisited") encompasses in the initial chapter, a description of four youngsters with learning problems. This is followed by a general discussion of the heterogeneity which exists in the learning disabled, emotionally disturbed, educationally handicapped, and disadvantaged populations (Chapter 2), and a

general conceptualization of the processes of learning and teaching and their relationship to successful and unsuccessful classroom instruction (Chapter 3). In part 2 ("Remedial Classroom Instruction"), building on the concepts evolved in part 1, it is suggested that teachers can identify and attempt to meet the remedial needs of pupils with learning problems by employing a set of sequential and hierarchical teaching strategies. A general exposition of the two step process which is involved is presented in Chapter 4 and is elaborated upon, conceptually and practically, in Chapters 5-8. Finally, with a view to the need for accountability in education, the process of evaluation is conceptualized and some ideas are offered for evaluating school programs (Chapter 9). Also included in the appendices are discussions of key variables related to educational programs, problems related to early intervention efforts, motivation and the classroom, and instructional procedures (a generic view).

IV. Resource Guide: Instructional Planning--This resource guide was prepared as a companion work to the monograph entitled Competency-Based Training in Education: a conceptual view (cited above). It is intended primarily for those actually engaged in the tasks of instructional and curricular planning, but it should also be useful to those who wish to learn more about such planning, Specifically, the guide includes: I. annotated references to some key general references which provide an orientation to curricular and instructional planning; II. a guide to some specific resources on curricular and instructional planning; III. an outline of sources of information and materials; IV. discussions of curricular and instructional planning, including several supplementary

"handouts" designed as instructional aids.

V. Resource Guide: Evaluational Planning--This resource guide contains annotated references to relevant literature and other sources of information. It was prepared as a companion work to the monograph entitled Competency-Based Training in Education: a conceptual view (cited above). Described are a variety of resources which can be used by (a) evaluation novices who want to pursue a program of self-education and (b) persons with a fair degree of understanding regarding evaluation, but who want to expand their knowledge regarding the process of evaluation and the resources which are available for use in teaching about, planning for, or carrying out program evaluation. The annotated references in this document are divided into the following parts: I. some key general discussions relevant to program evaluation; II. specialized discussions and practical aids focusing specifically on (a) methodology and design, (b) teacher effectiveness, and (c) handbooks and guides; III. discussions of techniques and instruments including (a) generic discussions, and (b) catalogues and reviews; IV. general resources for finding information relevant to evaluation. Also included are two appendices: (A) some thoughts and aids on evaluational planning; and (B) procedures being developed for evaluation of the experimental program undertaken as a part of our special project activity.

Acknowledgements

The carrying out of this project was made possible by the efforts and dedication of a great many individuals at the University of California, Riverside, and in the Riverside City Schools. The contributions have

been many and diverse. It is not feasible to describe and acknowledge every individual's contribution; however, there are some individuals whose intensive participation in various aspects of the project should not go unmentioned.

Of major importance throughout the duration of the project has been the initiative and energy of the project staff. Molly Carpenter was involved in every phase of the project over the past two years. Her ideas, productivity, attention to detail, and her moral support truly were indispensable. My long time colleague, Jeannie Fryer, escaped (reluctantly, I know) after the first year; nevertheless, her stamp on the project was indelible. We could not have survived the first year without her, and her periodic consultation during the second year was most helpful. The rest of the staff--Marilyn Lucas, Noi Thongutai, Eddi Knopf during the first year, Jim Hull, Elliott Duchon, Carol Meredith during the second year--contributed in countless, unique ways. Their participation in the various phases of the project made the hard times bearable and the good times a real joy. Clearly, the project staff shares the responsibility as well as the credit for all that has been accomplished.

The interest and cooperation of the teachers and administrators of the Riverside City School District were all that any project staff could ask for. We are especially indebted to Ray Berry, Bud Marley, Mabel Purl, Tom Phillian, Bill Nichols, Bill Hart, Joan Cudney, Raul Hernandez, David Tew, Chris Cordner, Dan Kenley, Sheila Fields, Isabel Flannigan, Carol Dolener, Jean Hubbel, Kathy Kimball, Judy Hjelseth,

Laura Amick, Ida Robinson, Kathy McNichol, Kristie Streifel, and the many persons at Adams, Palm, Madison, and Longfellow Elementary Schools who contributed in various ways.

We were most fortunate that there were five venturesome individuals who were willing to take a year's leave of absence from their classrooms in order to enroll in the experimental program. Somehow they survived their experience. They are: Sheila Coker, Sally Grossman, Betty Hart, Alverna Messick, and Imelda Sullivan. Without their initiative, courage, and competence, this project could not have been undertaken.

Finally, but not least, there is Nancy Adelman. She's responsible for more of this than she knows.

Howard Adelman, Ph.D.
Project Director
August, 1973

FACILITATING EDUCATIONAL CHANGE AND PREPARING CHANGE AGENTS

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B. Materials from the Pilot Program

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Introductory Note

The problem of insitutionalizing appropriate and substantive changes in schools is as intriguing as it is complex. So many special programs designed to improve the instruction of pupils (e.g., in such areas as math, English, reading, science) and of teachers (pre- and in-service) have not resulted in the far reaching or dramatic changes which have been anticipated. While the lack of dramatic impact can be attributed to a variety of factors, at the heart of the matter is the fact that so little is known about the comprehensive diffusion (dissemination, installation, and maintenance) of innovations in education. However, this is not to say we know nothing about the process and problem of change. As Havelock and Havelock state: "There is a significant body of knowledge and theory which can form the basis of coherent models of training in change process."[1]

In this monograph, I attempt to focus on the topic of facilitating educational change and discuss our efforts to prepare change agent personnel. The experiences, ideas, conceptions, hypotheses, and practical

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[1] R.G. Havelock and M.C. Havelock, Training for Change Agents. Ann Arbor: Center for Research on Utilization of Scientific Knowledge, Institute for Social Research, University of Michigan, 1973. In this excellent resource, the authors discuss four models of change, i.e., change as (a) a problem-solving process, (b) a research-development-and-diffusion process, (c) a process of social interaction, (d) a linkage process. (These four models are not mutually exclusive.) Additional material from this book is presented in this monograph in Appendices A and C.

suggestions which are presented have evolved over years of service, training, and research activity and undoubtedly will undergo revision as a result of the ongoing activities in which I and my colleagues are engaged.

I

The Development and Diffusion of "Mainstreaming" Approaches

If the majority of youngsters who manifest learning problems are to be satisfactorily served in regular classrooms (i.e., "mainstreamed"), some major changes will need to be made with reference to regular classroom instruction in this country. It is not my purpose here to explore the nature of such changes;[1] rather, the intent is to discuss the problem of institutionalizing whatever changes empirically are found to be indicated. There is a particular focus on how master and specialist teachers can be effective change agents with reference to the diffusion (dissemination, installation, and maintenance) of prototype "mainstreaming" programs.

As Sarason (1971) has pointed out:

> Good Ideas and Missionary zeal are sometimes enough to change the thinking and actions of individuals; they are rarely, if ever, effective in changing complicated organizations (like the school) with traditions, dynamics, and goals of their own. [p. 213]

If this is the case, and I think most evidence indicates that it is, it is unfortunate that we seem to be more concerned with "spreading the word" regarding mainstreaming approaches than we are with the <u>comprehensive</u> diffusion of such approaches. Still, this tendency is understandable since we know a good deal more about ballyhooing an idea than

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[1] Elsewhere (Adelman, 1973) I have suggested some of the changes I and my colleagues are involved in investigating.

we know about the process by which comprehensive and widespread institutional change can be accomplished.

In order to understand what is involved in such a process, it is necessary to rely on the reported experiences and thinking of others (e.g., Lippitt, Watson, and Westley, 1958; Carson, Gallaher, Miles, Pellegrin, and Rogers, 1962; 1965; Bennis, 1966; Clark and Guba, 1965; Guba, 1968; Bennis, Benne, and Chin, 1969; Sarason, 1971; Rogers and Shoemaker, 1971; Baldridge, 1972; Havelock, 1973; Havelock and Havelock, 1973)[2] and on one's own empirical and conceptual efforts. The following is a discussion of procedures by which prototype mainstreaming programs might be developed, disseminated, installed, and maintained. I start with the assumption that validated prototypes of mainstreaming programs need to be developed and spread and that various interest groups (e.g., governmental bodies, educators, private organizations) want to facilitate such development and diffusion.[3]

Developing a Feasible Prototype

As a basic premise, let us accept the idea that it is preferable to

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[2]The reader who wants to pursue the topic of planned change beyond the references cited above can begin with two annotated bibliographies: L.M. Maguire, S. Temkin, and C.P. Cummings, An annotated bibliography on administration for change, 1971. Research for Better Schools, Inc., 1700 Market St., Suite 1700, Philadelphia, Penna, 19103; E.A. Campbell, M.C. Havelock, R.G. Havelock, J.C. Huber, and S. Zimmerman, "Major works on change in education, an annotated bibliography" (Appendix C in R.G. Havelock, The change agent's guide to innovation in education). Englewood Cliffs: Educational Technology Publications, 1973.

[3]Clark and Guba (1965; also see Guba, 1968) discuss the theory-practice continuum as involving four phases or stages, i.e., research, development, diffusion, and adoption. For purposes of this paper, I include research under development and adoption under diffusion.

base all program development on as solid a research foundation as is feasible. Given such a research base, the development of workable prototype models can be viewed as involving four major steps: (1) the formulation of generic and specific conceptualizations, (2) analysis of the needs related to translating specific conceptualizations into practical demonstrations, (3) generic and specific tooling up activity in preparation for practical demonstrations, (4) the actual implementation and evaluation of practical demonstrations.

More specifically, the first step in developing a prototype program involves the formulation of a general conceptual view of systematic efforts to mainstream youngsters with learning problems. Such a generic conceptualization attempts to clarify major ideas, concerns, issues, and problems involved in such an approach to educating youngsters with learning problems. From this general framework, a number of specific program models might be conceptualized.

Once a specific prototype is formulated, an analysis can be made of what is needed in order to translate the idea into a practical demonstration, i.e., what is needed in terms of materials, personnel, facilities, and so forth, and, of course, what all this means in terms of dollars. It should be emphasized that the purpose of such feasibility studies is not to find which approach is the least expensive. Rather, the intent simply is to describe needs and costs. Judgement as to whether it is feasible to proceed with a given approach is based on such considerations as whether the pertinent decision-makers are attracted to the prototype and whether the necessary resources are available for a practical demonstration and for its diffusion if it is effective.

It also should be noted that feasibility studies usually point both to generic and program specific needs. For example, all the prototypes will need to be evaluated and much of the evaluation activity should be identical. At the same time, a particular approach may encompass specific instructional objectives which other approaches do not, and, therefore, some idiosyncratic curricular and evaluative procedures may be needed.

As a consequence of such circumstances, tooling up activity may involve both generic and program specific activity. In meeting generic needs, the products of the tooling up activity potentially should be useful for all programs, e.g., generic curricular and evaluational packages. Since the resources needed to develop such products probably are beyond those available to any one program, major support for such activity is required from the public and private sectors. If such generic tooling up activity is accomplished, it can be anticipated that the activity required to tool up for a specific program will be reduced greatly.

The final step in the development of feasible prototypes is the implementation and evaluation of the demonstration programs. This step involves: (1) the initiation, on-going assessment, modification, and on-going management of instructional and non-curricular activities and (2) the description and judgement of the program's antecedents, transactions, and outcomes.[4] Given that the demonstration is judged to be successful and worth spreading, the next concern is with its diffusion.

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[4]It should be emphasized that evaluation is done at each step of the process as should be evident from the fact that judgements are made as to whether or not to proceed. The evaluative concern at this fourth step is with the need to validate the prototype as implemented, i.e., to demonstrate it is effective, albeit under experimental as contrasted with work-a-day conditions.

Diffusion of Prototype Models

The term diffusion as used here is meant to connote the process by which a prototype model not only is heard about (disseminated), but is installed and maintained in other situations where it is needed. Since so little is known about how to accomplish this process with reference to school programs, the following is offered for whatever heuristic value it may have.

Based on the pertinent literature and relevant personal experiences, it seems reasonable to suggest that any proposed strategy for institutional change must provide at least for the following if an appropriate climate and context for change is to be created:

1) appropriate incentives for change (e.g., rewards, expectations of success, intrinsically valued outcomes),

2) the presentation of an appropriate range of relevant alternatives for change so that an institution may select one which is workable within the institution's context and is acceptable to those who will carry it out,

3) establishment of mechanisms (e.g., special training, resources, rewards, procedures designed to improve organizational health) to facilitate the effective functioning of any person who takes or is given responsibility for installing changes,[5]

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[5]Such facilitative mechanisms may be directed at change agents and/or at persons who are to change. For example, the change agent may need special training regarding how to facilitate a particular change; at the same time, persons who are to change may need training to develop prerequisite knowledge, skills, and attitudes before they can be expected to carry out a particular change. Examples of other mechanisms which may be needed are: released time, extra-clerical help, in situ demonstrations, communication oriented meetings, frequent indications of support for a given change by the organization's leaders, "influentials," and gatekeepers, and by relevant professional associations.

4) any person who performs the role of change agent by behaving more as a pragmatic than as a "Utopic" advocate (Gallaher, 1965),[6]

5) appropriate structuring of the scope and timing of change (e.g., planned transition or phasing in of changes),

6) appropriate feedback regarding progress of change activity,

7) ongoing, supportive mechanisms to maintain substantive changes as long as they remain appropriate.[7]

Awareness of these needs[8] has led me to suggest some procedures both for national and local diffusion efforts.

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[6]Gallaher (1965) states that there is "a large body of research to support the basic assumptions underlying the pragmatic model, that is that people will more readily accept innovations that they can understand and perceive as relevant, and secondly, that they have had a hand in planning" (pp. 41-42). Other attributes of effective change agents are described in Appendix A.

[7]Havelock and Havelock (1973), in reviewing the model of change which conceptualizes change as a linkage process, list the following six propositions which have been derived from this model: (1) "To be truly helpful and useful, resource persons must be able to simulate the user's problem solving processes." (2) "To derive help from resource persons (and resource systems) the user must be able to simulate resource system processes, e.g., to appreciate research knowledge, he must understand how research knowledge is generated and validated." (3) "Effective utilization requires reciprocal feedback." (4) "Resource systems need to develop reciprocal and collaborative relationships not only with a variety of potential users but also with a large diverse group of other resource systems." (5) "Users need to develop reciprocal and collaborative relations with a variety of resource systems (cosmopoliteness)." (6)"A willingness to listen to new ideas (openness) is an important prerequisite to change. This applies both to resource persons and users."

[8]Another way to think about the characteristics of a change process is in terms of the inhibiting factors which must be overcome. Miller (1967) suggests (a) three general inhibiting factors--traditionalism, laziness, and fear and insecurity, and (b) seven (less general) educational factors inhibiting change--rut of experience, administrative reticence, educational bureaucracy, insufficient finances, community indifference and resistance, inadequate knowledge about the process of change, and inadequate teacher education programs.

A Proposal for Facilitating Diffusion on a National Scale. While the usual forms of dissemination (e.g., reports, journal articles, monographs) have their uses, for purposes of diffusion a more systematic and enticing approach seems indicated. Thus, it is recommended that each validated prototype be described in a federal or state agency "Request for Proposal" (RFP) which offers program development grants. In this way, those who are interested in developing new programs or revamping existing programs could receive support if they are willing to install a given model. The initial funding could be for regional installation of a particular prototype. For example, if there are 3 validated prototypes to be disseminated, all three could be installed in a given region. This would make a demonstration of each prototype available in each region of the country. (It is recognized that a prototype may have to be adapted to meet the specific needs of a particular region.)

In selecting which applicants to fund for the development of these regional demonstrations, it would seem to be important to choose from among those who document (a) a need for and the capability of developing such a program (given the grant funds) and (b) a commitment, resource base, and mechanism for carrying on after the development grant funding ends. It is assumed that to facilitate an applicant's efforts to install and maintain the program (1) the original prototype (or at least its personnel) will be available for purposes of consultation (training, demonstrations, and so forth with reference to planning, implementing, and evaluating such a program); and (2) other support mechanisms will be accessible (e.g., technical support).

For these assumptions to be viable, it will be necessary to provide

some continuing grant funds to the original prototype programs (at least for consultation activity), and it would be important to facilitate the establishment of an ongoing, accessible, and comprehensive network of other program support mechanisms. Such additional support mechanisms should be designed to meet the developmental and maintenance needs of adopted/adapted prototypes. Included in such a network would be information and material exchanges, technical support, and so forth.[9] Participants in such a network could come from both the public and private sectors.

Once the regional demonstrations are implemented, program development grant RFP's could be issued again. At this point, selected applicants would be able to learn the installation process at the nearest regional demonstration program.

With the installation of prototype programs at an increasing number of sites, the problem of maintenance becomes more critical. The network of support mechanisms mentioned above, of course, would be a very important aid. As another way of facilitating program maintenance, it would be desirable for programs to establish direct mechanisms for inter-program cooperation. (Since we know so little about such mechanisms, there is a need to stimulate the development of models for such program cooperative functioning.)

Finally, it would be important to evaluate the entire diffusion enterprise. Such evaluation is necessary not only so that we can

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[9]One example of such support activity is the Technical Assistance Development System (TADS Project) funded by the Bureau of Education for the Handicapped.

improve the efficiency and effectiveness of diffusion activity with reference to a specific prototype, but so that we may learn more about the general process of institutional change.

An Example of Local Diffusion Using Master or Specialist Teachers as Change Agents. As has been suggested in a preceding section of this paper, a key to the success of diffusion efforts will be the person(s) who takes or is given responsibility for installing changes. Such a resource person has been called a change agent (e.g., see Havelock, 1973).[10] At this point, it seems appropriate to describe an approach where teacher-personnel were used to install a prototype mainstreaming approach in several demonstration classrooms, and how they facilitated the spread of this program to other classrooms and schools.

For the past few years, my colleagues and I have been experimenting with the use of school-personnel (e.g., successful specialist and master teachers) who are freed from regular responsibilities so that they can help the district implement changes which have a positive impact on "problem" pupils in both regular and special class settings. The primary function of these change agents is in the area of in-service teacher education. However, the author believes such efforts have an

[10] Elsewhere, I have discussed the resource concept, emphasizing that one of the various functions encompassed by such a concept is that of facilitating planned change (Adelman, 1972). Havelock (1973) states that a change agent can act as: (1) a catalyst, (2) a solution giver, (3) a process helper, and/or (4) a resource linker. Focusing on the process helper role, he suggests that a "change agent's activity can be conceptualized into 6 stages. These are: I. Building Relationships, II. Diagnosis (From Pains to Problems to Objectives), III. Acquiring Relevant Resources, IV. Choosing the Solution, V. Gaining Acceptance, VI. Stabilizing the Innovation and Generating Self-Renewal.

important impact on other resource functions (see Adelman, 1972). For instance, their success in improving the performance of other teachers results in fewer "problem" pupils and, therefore, in less need for supplementary assessment and instruction. In addition, in performing the in-service function, they are expected to be advocates of the rights and needs of "problem" pupils and to provide advice regarding policies affecting such pupils. Finally, as secondary functions, when and only when it is appropriate, they provide aid in the development of new policies and practices, help find and provide materials, do supplementary assessment, and participate in research activity.

Basically, what these change agents do is to go from classroom to classroom (in some instances, one person goes; in others, a team of two is sent) to help other teachers learn moer effective procedures for coping with children with learning and behavior problems. If a sufficient number of specialists are available, they can be used to train all the teachers in a given district who desire and/or need such in-service education.[11] If the number of the change agents is limited, the model can be varied so that they work with a limited number of teachers (approximately three in any given school); these teachers are then used for demonstration and training to achieve the diffusion objectives.

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[11]As will become evident, this approach to the diffusion of mainstreaming approaches has a number of built-in incentives for teachers, e.g., the training does not cost the teacher any money, and it is offered in their own classrooms during the regular school day. In addition, it should be noted that only a few teachers in a school can be taught at one time, and this "limited enrollment" feature seems to have an enticing effect. (The first teachers chosen are volunteers, i.e., they have expressed a desire to learn more effective procedures for coping with children with learning/behavior problems.)

This "spread-of-effect" approach employs a slightly modified version of the basic process-model.

More specifically, the process which has evolved consists of four overlapping steps and requires from 4 to 7 weeks per cycle, during which time a change agent can rotate among three teachers and provide a reasonably comprehensive program to improve teacher and pupil performance. The four steps are:

1) Demonstration and discussion (2-3 weeks). The training cycle is initiated with an individual meeting between the change agent and each of the three participating teachers who are to be trained during that cycle.[12] A major focus of the discussion is on learning what procedures each teacher currently employs in coping with learning and behavior problems, and on sharing some general thoughts about such children. (The specifics of the training process are described to prospective participants prior to their selection for the in-service program but are usually reviewed at this time as well.) Then, for a day or two, the change agent observes during the reading period in each of the three classrooms.[13] The reading period is chosen as a point of focus because

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[12]These meetings provide an important opportunity for the change agent to begin to build an effective working relationship with the participating teachers. Havelock (1973) suggests nine characteristics of such a relationship that "comprise an ideal base from which to launch an innovative process," i.e., reciprocity, openness (with 6 openness dimensions enumerated), realistic expectations, expectations of reward, structure, equal power, minimum threat, confrontation of differences, and involvement of all relevant parties.

[13]The three participating teachers must schedule their reading periods for different times of the day to allow the change agent to rotate to each room. During the initial discussion and observation periods, preliminary assessment is made by the change agent(s) of the strengths, weaknesses, and limitations which may be encountered in effecting appropriate change.

this is the time when learning and behavior problems frequently occur and because of the importance of this basic skill. Based on these initial discussions and observations, the change agent assumes responsibility for teaching during the reading period. She provides a "master" demonstration of the procedures which the participating teacher is to learn, and it frees the teacher to observe what is being demonstrated. Before and after such demonstrations, the change agent meets with the teacher to discuss the rationale underlying the demonstrated procedures, to explore alternative ideas and procedures, introduce relevant resources, and to problem solve when a procedure is not effective. (If a team of two change agents are present, one of them might carry on some of the interchange with the teacher while the other is demonstrating the program.) In short, during this step the participating teacher observes a master demonstration and takes part in in-depth, personalized discussions of what she has observed, all in her own classroom, with her own students, every day for approximately 2 weeks. In addition, during this step the change agent usually recommends a concise, relevant set of readings.

2) Practice (1-2 weeks). After approximately 2 weeks of demonstration and discussion (sooner if the teacher appears ready), the participating teacher begins to apply what has been learned. While the change agent continues to be responsible for teaching the reading lesson, the teacher "practices" new procedures. During this step the change agent observes the teacher's practice whenever feasible and is ready to provide guidance, feedback, and additional demonstrations. Clearly, then, Steps 1 and 2 overlap; this blending of one step into the next is

important at each transition point in the process.

3) Initial implementation (1-2 weeks). After a period of supervised participation, the teacher assumes full responsibility for teaching the reading lesson using the new procedures as she has adapted them, while the change agent observes. Meetings with the teacher are held as needed for feedback, questions and answers, and general discussion, and if necessary, the change agent provides additional demonstrations. (At this point, the process--which we call a comprehensive apprenticeship model--resembles traditional supervised teaching, but by virtue of the preceding interactions, the experience is very different, e.g., because of the close collaborative relationship which has been developed, the contacts between the "supervisor" and the "supervised" usually are devoted to mutual sharing and problem solving rather than to critiques.)

4) Follow-up. Obviously, the change agent should be available as often as possible to answer questions, solve problems, etc. Thus, as she begins a new training cycle (with teachers in the same school or in another school) it is necessary to reserve some time for follow-up consultation, i.e., observation and feedback, demonstrations and discussion. (In practice, it has been found that such support is needed mostly in the first month after completing the third step, and that this can be dealt with by setting aside 1 day a week for such consultation.)[14]

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[14]Havelock (1973) states: "The key work in insuring continuance is '<u>internalization.</u>' Where possible, the change agent should lead the client toward self-help and responsibility in the maintenance of the innovation. There are at least six important considerations in insuring continuance. These are: 1. continuing reward, 2. practice and routinization, 3. structural integration into the system, 4. continuing evaluation, 5. providing for continuing maintenance, 6. continuing adaptation capability."

In those schools where the change agents work with only a few teachers with a view to developing demonstration rooms and utilizing a "spread-of-effect" to accomplish the diffusion objectives, the change agent also works with another "anchor" member of the school staff, e.g., a reading specialist or an administrator. This anchor person learns to act as a facilitator (on-site change agent) by participating in the process, i.e., observing, practicing, discussing, observing, and so forth. Then, after the change agent moves on to begin a new training cycle at another school, it is the anchor individual who facilitates the on-site diffusion of the program to other teachers in the school (who are released on a scheduled basis to observe in the demonstration rooms). This facilitator employs a modified version of the four-step process described above. That is, the facilitator accompanies other teachers in the school to see a demonstration by the change agent and provides the discussion specified in Step 1; for the subsequent steps, the facilitator goes to the "learners'" classrooms to collaborate as needed during the practice, initial-implementation, and follow-up steps.[15]

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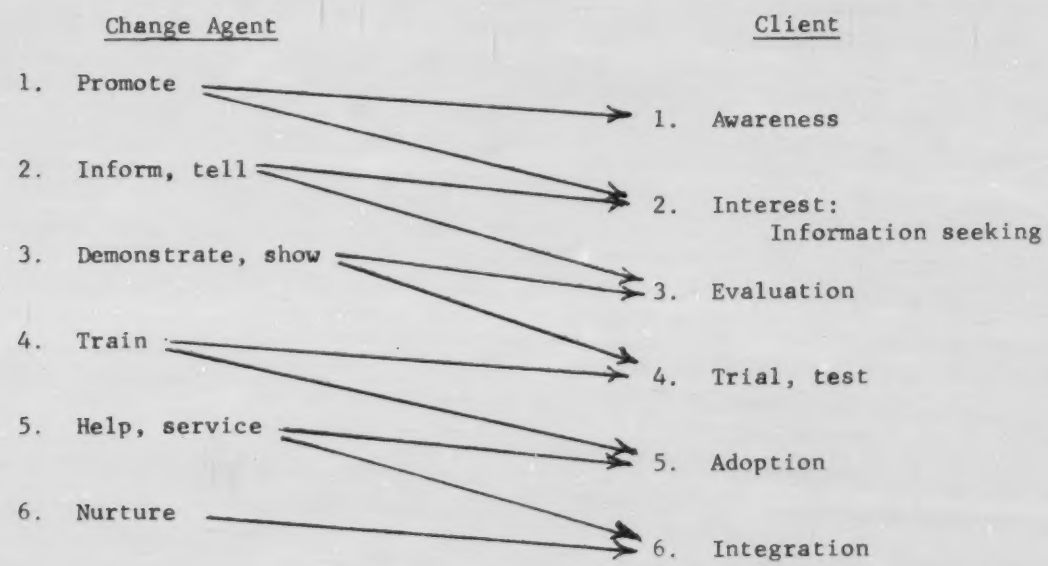
[15]As the above example demonstrates, the change agent-teacher can play an important and unique role in helping school districts upgrade the competency of regular-classroom teachers with regard to the education of pupils with learning/behavior problems. On another level, such change agents also could be employed in programs designed to prepare change agents and personnel. For instance, a state department of education could employ (for a limited period of time--perhaps 2 years) pairs of change agents who would be available, on request, to local school districts for 4 to 7 weeks of consultation (payment to go to the state to defray the cost of the corps) to help (a) initiate appropriate programs for the "special" population of pupils to be served, and (b) develop the needed personnel and/or verify the competency of the district's specialists. (With reference to accreditation, such a team could help insure that all change agents and specialists in the state are able to perform at least at a minimal level of competence in order to be certified.)

In connection with the above procedures, it is interesting to note that in his book, The Change Agent's Guide to Innovation in Education, Havelock (1973) summarizes six research-identified phases in the process of individual adoption of an innovation. These are: awareness, interest, evaluation, trial, adoption, and integration. He then indicates that the change agent's activities should be designed to coordinate with these six phases, i.e., be designed so that the change agent is with (not ahead or behind) the individual adopter. Thus, he suggests the process occurs in the following way (see Havelock, 1973, p. 115):

Coordinating Change Agent Activities with the Client's Adoption Activities



In our initial studies, the four steps described above have been found to be a promising approach to the diffusion of mainstreaming procedures. Not only does the model allow change agents to coordinate their activities to the client's adoption activities as described by Havelock (1973), it also allows the change agent to minimize group-based pressures to resist innovation.

In concluding, I hasten to indicate that I recognize that such a systematic approach to development and diffusion requires a considerable investment of time and money. Important programs rarely evolve rapidly or cheaply; the space program which has taken us to the moon and beyond is a case in point. Appropriate costs and time schedules, even when they are extensive, are not and should not be discussed as <u>issues</u>. The only issue is what priority we want to place on improving the education of our nation's youth.

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II

The Preparation of Change Agents Who Can Diffuse "Mainstreaming" Approaches

During the first year of a special project designed to develop a competency-based training model, my colleagues and I prepared five teachers to assume change agent roles through a Master's degree program. We had hoped to progress fast enough during the year so that we would have a well-defined curriculum and some relevant evaluation procedures which could be validated during the second year of the project. Frankly speaking, this rapidly proved to be a naive hope. (While unfortunate, this circumstance did not prevent us from achieving our major goal which was to evolve a generic model to facilitate the development of systematic programs for personnel preparation in education--see Adelman, 1973a.) The dual purpose of this paper is (a) to describe the program we implemented to prepare the change agents and (b) to discuss the implications derived from our experiences and findings which have relevance for the future preparation of such personnel.

The Pilot Program

No effort is made here to exhaustively describe the program. The intention is to convey a sense of our initial approach to planning, implementing, and evaluating the program, to relate certain practical facets which may be of general interest, and, more importantly, to lay some foundation for the discussion of implications for future programs which is presented in the next section of the paper.

Selection of Participants

As soon as we knew that we would be able to offer an experimental preparation program to prepare change agent personnel, we contacted the superintendent of the local school district. His interest and positive support was an important aid in recruitment.[1] He sent a letter to all qualified teachers in the district describing the experimental Master's degree program and indicating that a year's leave of absence would be granted to those who applied and were selected. He also set up a district screening committee to facilitate selection of a rank-ordered pool of qualified applicants, e.g., those who district personnel had judged to be effective teachers and to be effective in interpersonal interactions with fellow teachers and administrators. From this pool, the top applicants of those who could meet the university graduate admission requirements were selected.[2] The six program participants (all female) originally selected ranged in age from 24 to 49 and in teaching experience from 1 to 8 years.[3]

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[1]At this writing, the superintendent is still attempting to find enough funds so that the district can develop an experimental program using the personnel we have prepared in the capacity of district-wide change agents.

[2]The School of Education's GRE criteria score levels were waived.

[3]Early in the year, it became evident that one of the participants was having difficulty with the program. A variety of efforts were made to help her, but it soon became mutually evident that she would probably be unable to successfully complete the program, and she transferred to a program which may be more suitable for her. (In exploring why our selection procedure had failed, we discovered that her principal had been away at the time the district personnel director was screening applicants for our program. Since the principal was unavailable, the screening was based on the limited information available in her files. We have learned since that the principal would not have recommended her.)

Program Rationale

The Master's degree level personnel enrolled in this program were trained to assume change agent roles in school districts, particularly with reference to providing better educational opportunities for pupils with learning and behavior problems. In this connection, the program emphasized knowledge, skills, and attitudes related to assessment, program planning and implementation, consultation, supervision, and research, and prepared personnel who are equipped not only to provide direct services for pupils, but who also are able to function as pre- and in-service educators, and as intelligent consumers of and participants in research. By the time they completed the program, each participant had demonstrated via actual performance in the public schools and in written and oral evaluation sessions that she had acquired at least the minimal level of competence necessary for on the job success, as judged by the professorial and supervisory staff.

The program was guided by a set of propositions and long range goals which emphasize the need to prepare individuals who are not only technically competent, but who are effective members of society and of a profession which has a unique role to play in that society. The content of the program was conceptualized in terms of the areas of instructional focus and level of competence needed to perform this unique professional role, rather than courses, units, and hours. The process employed in developing the needed competence involved coordinated and integrated academic, observational, and participatory experiences, with special emphasis on utilizing a comprehensive apprenticeship-like model whenever it was appropriate and feasible and on accommodating individual differences

among program participants.

It was our intention that the professionals we trained would have a significant impact on improving the educational opportunities of a wide range of youngsters, including those with learning or behavior problems or both. We take the position that a given youngster's success or failure in school is a function of the interaction between his strengths, weaknesses, and limitations and the specific classroom situational factors he encounters. With regard to youngsters who manifest school learning/behavior problems, in California such pupils are often categorized as educationally handicapped (elsewhere such pupils are labeled as learning disabled or emotionally disturbed). The program participants also were concerned with so-called disadvantaged pupils. Our view of the pupil populations categorized as learning disabled, emotionally disturbed, educationally handicapped and disadvantaged is that each consists of three major subgroups of youngsters with learning problems. These subgroups include at one end of a continuum those youngsters who actually have major disorders/deficits interfering with learning and at the other end of the continuum those whose problem stems primarily from the deficiencies of the learning environment; the third group encompasses those youngsters with minor disorders/deficits who, under appropriate circumstances are able to compensate for such handicaps. To meet the instructional needs of the youngsters in each of these three subgroups, the trainees learned sequential and hierarchical teaching strategies which may be used in both regular and special classroom instructional programs (see Adelman, 1971; 1973b).

Instructional Content and Process

The training involved (a) formal academic experiences (excluding outside reading), e.g., lectures, discussions, (6-8 hours/week); (b) practical experiences, e.g., actual and simulated observational and supervised participatory experiences (17-18 hours/week); and (c) various "informal" experiences, e.g., meetings (2 hours/week). More specifically, each trainee was involved in class at the University approximately 6-8 hours each week, in practicum situations approximately 15 hours/week (with at least 10 of these hours actually in school classrooms), and in supervisory "feedback" sessions 2-3 hours/week. In addition, to facilitate coordination and integration of these various experiences, as well as to provide for continuous evaluation of the program and for general problem solving, the professorial and supervisory staff met 2 hours per week for discussion with the trainees as a group.

While we did not follow a course and unit orientation, since the University requires 36 units for a M.A. degree, the following summary descriptions were used as umbrella "courses" under which the needed competence could be developed.[4]

1) Assessment and Children with Learning Disabilities (L.D.)--In this area, the focus was on the process by which an individual attempts to understand himself and others in order to describe, predict, explain, and make decisions regarding children with L.D. The primary areas for competence development included observational, testing, and interpretative abilities.

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[4]Appendix B contains various materials from the pilot program, e.g., our initial conceptualization of the areas for instructional concern, a pragmatic list of intended outcome, a handout given to the participants to introduce them to the program, an expanded outline plan for the research area, the M.A. comprehensive questions, and so forth.

2) Program Planning and Implementation in Special Education--In this area, the focus was on the process by which available resources may be utilized purposively and appropriately to provide effective and efficient programs for exceptional children, in general, and the L.D., in particular. The primary areas for competence development included basic instructional, curricular, class management, interpersonal, and self-corrective abilities.

3) Consultation and Supervision--In these areas, the focus was on (a) the process by which an individual attempts to assist a colleague's efforts to assess and solve a problem purposively and appropriately, and (b) the process by which an individual critically analyzes, evaluates, and guides programs and personnel in order to facilitate the improvement of programs for which he is responsible. Competence in these areas was developed by strengthening the abilities listed in connection with assessment, program planning and implementation, and research; in particular, there was an intensive focus on the manner in which attitudinal and performance change are influenced by group pressure and personality dynamics, as well as on intra- and interpersonal functioning.

4) Research and Learning Disabilities--In this area, the focus was on the process by which new facts are discovered and accepted conclusions are supported, rejected, and/or revised. The primary areas for competence development included both consumer and participant abilities.

5) Seminar in Learning Disabilities--This course involved the intensive study of special topics related to Specific Learning Disabilities (as defined by the National Advisory Committee on Handicapped Children).

6) Special Studies and Electives--Special interests and/or needs were handled via this mechanism.

The courses were taken in the following sequence:

Fall Quarter--Assessment and Children with Learning Disabilities; Program Planning and Implementation in Special Education

Winter Quarter--Research and Learning Disabilities (part I); Seminar in Learning Disabilities

Spring Quarter--Consultation and Supervision; Research and Learning Disabilities (part 2)

Special Studies and electives were taken during any or all three quarters or in the summer.

Although all participants completed the required course work in three quarters, each individual had to demonstrate on a written exam and in actual classroom performance that she had acquired at least the minimal level of competence necessary for on the job success as judged by the professorial and supervisory staff. In this connection, two participants needed to continue in the program longer than the 3 quarters necessary for completing formal unit requirements. Thus, while courses were taken and credit given just as in conventional programs, the primary emphasis at all times was on the development of competence and the only acceptable criteria for successful completion of the program was demonstrated competence.

Program Evaluation

As we indicated to the U.S. Office of Education in our original project proposal, while we are aware of what should be accomplished with regard to program evaluation, we also are aware that it requires considerably more resources (in terms of staff, instruments, and financial support) than we had available. Nevertheless, we did attempt to evolve some procedures for both basic and evaluative research purposes.[5] In this connection, we focused on the development of procedures which could be used to gather pre- and post-program data. We had the program participants (and a contrast group of matched control subjects) attend two all-day sessions prior to the program's implementation and again at its conclusion. At these sessions, they responded to essay type

[5] Our conceptual view of program evaluation is presented elsewhere (Adelman, 1973a).

questions covering the areas of assessment, program planning and implementation, consultation and supervision, and research; in addition, they critiqued a research article and participated in a role play consultation situation which was videotaped. Ratings of in-the-field performance were made throughout the year for purposes of formative and summative evaluation. In this way, we were able to make some progress toward the development of procedures to assess program participant and non-participant behaviors and products in natural and manipulated situations at the beginning and at the end of the program.[6] In addition, we pilot tested a questionnaire designed to assess background and experiential factors which might be importantly related to successful performance. It also should be emphasized that efforts were made to develop and pilot test procedures designed to assess the participant's impact on pupils (e.g., a pupil rating procedure involving a standardized performance situation and a teacher record keeping procedure). Finally, it may be noted that a follow-up study of the program graduates has been initiated and will be continued.[7]

As a result of our project activity during the first year, we identified a number of specific developmental needs which should be met in order to enhance the change agent preparation program. Thus, during the second year, we undertook to evolve the conceptual foundation and

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[6]It also should be noted that all program participants had to pass a battery of M.A. comprehensive questions at the end of the program.

[7]The various procedures we have been experimenting with are included in a project product entitled Resource Guide: Program Evaluation (Duchon, Hull, and Carpenter, 1973).

various practices related to personnel preparation programs in general, and our type of program in particular. The next section is devoted to a discussion of the implications we have derived from the activity of the past two years with specific reference to the preparation of change agent personnel.

Implications Derived for Future Programs

Again, there is no attempt to be exhaustive in this discussion; the intent is to highlight some key topics.

Selection of Participants

We continue to believe that a basic prerequisite for any person entering our type of change agent program is that they have demonstrated effectiveness in teaching in a classroom and in relating to fellow teachers and administrators. Thus, a major entrance requirement should be convincing documentation of effective performance, e.g., not only testimonials, but actual observation by impartial judges. A related consideration is the sponsorship of the applicant by a current or potential employer.[8] The fact that someone not only is recommending a person, but is committed to employing the individual as a change agent is reassuring with reference to selection. It is also an added incentive for participants to successfully complete the program, and is the easiest way to eliminate concerns regarding subsequent placement of program graduates.

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[8]For further discussion of the question of admission criteria and accreditation see Adelman (1973a).

Program Rationale

We believe that the type of change agent we have been focusing on, i.e., a professional who is responsible for and capable of the diffusion of mainstreaming approaches, is very much needed. While we have attempted to prepare such personnel within the context of a University M.A. program, such preparation clearly could be offered in other contexts. (The incentive value which accrues from offering an M.A. degree could be transferred to a special certificate of competence if there is a comparable increase in salary.)

Based on our work over the past two years, we have somewhat revised and expanded our general conceptualization of what is involved in the process of planning, implementing, and evaluating a personnel preparation program (e.g., see Figures 1 and 2).[9] We also have revised and expanded some of the specific assumptions and orientations which were presented in the section of this paper describing the pilot program. In particular, we now conceive of the concerns around which such a program's instructional content is developed as being the tasks involved in: (1) systematically educating the nation's youth, i.e., the tasks involved in formulating a program rationale and in program planning (curricular, evaluative, administrative, and instructional), implementation, and evaluation with reference both to pupils in the general population and pupils with learning/behavior problems,[10] and (2) the diffusion of such systematic programs, i.e., the process of facilitating

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[9]Also see Competency Based Training: A Conceptual View (Adelman, 1973a).

[10]Elsewhere (Adelman, 1973b) I have discussed the "mainstreaming" nature of the approach which we took.

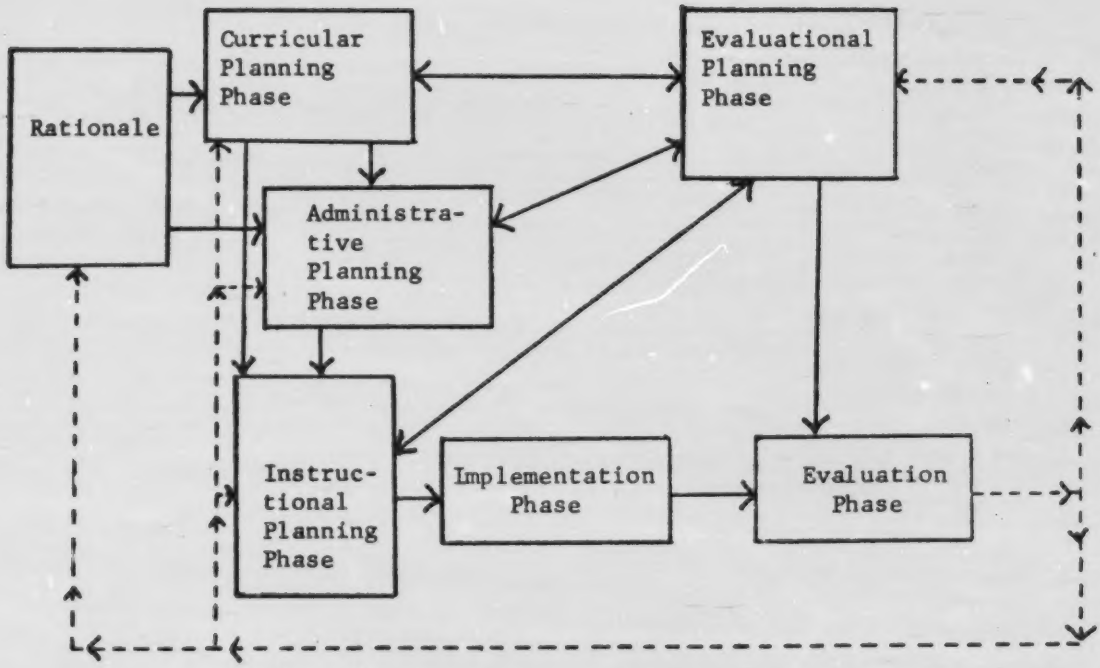

Figure 1. The Process of Planning, Implementing, and Evaluating an Educational Program.

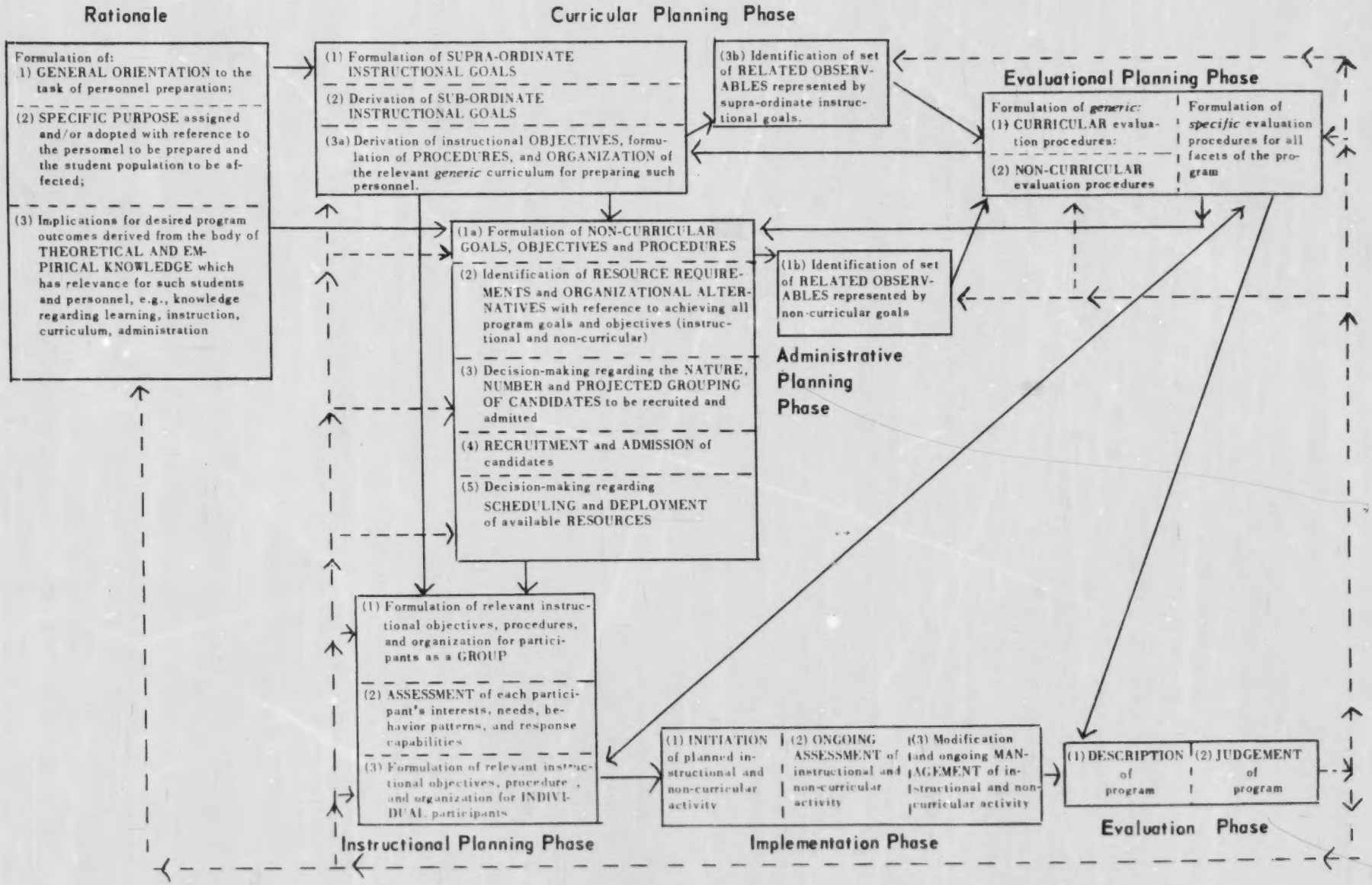
Rationale
Curricular Planning Phase
Formulation of:
1) GENERAL ORIENTATION to the task of personnel preparation;
(2) SPECIFIC PURPOSE assigned and/or adopted with reference to the personnel to be prepared and the student population to be affected;
(3) Implications for desired program outcomes derived from the body of THEORETICAL AND EMPIRICAL KNOWLEDGE which has relevance for such students and personnel, e.g., knowledge regarding learning, instruction, curriculum, administration
(1) Formulation of SUPRA-ORDINATE INSTRUCTIONAL GOALS
(2) Derivation of SUB-ORDINATE INSTRUCTIONAL GOALS
(3a) Derivation of instructional OBJECTIVES, formulation of PROCEDURES, and ORGANIZATION of the relevant *generic* curriculum for preparing such personnel.
(3b) Identification of set of RELATED OBSERVABLES represented by supra-ordinate instructional goals.
Evaluational Planning Phase
Formulation of *generic*:
(1) CURRICULAR evaluation procedures:
(2) NON-CURRICULAR evaluation procedures
Formulation of *specific* evaluation procedures for all facets of the program
(1a) Formulation of NON-CURRICULAR GOALS, OBJECTIVES and PROCEDURES
(2) Identification of RESOURCE REQUIREMENTS and ORGANIZATIONAL ALTERNATIVES with reference to achieving all program goals and objectives (instructional and non-curricular)
(3) Decision-making regarding the NATURE, NUMBER and PROJECTED GROUPING OF CANDIDATES to be recruited and admitted
(4) RECRUITMENT and ADMISSION of candidates
(5) Decision-making regarding SCHEDULING and DEPLOYMENT of available RESOURCES
(1b) Identification of set of RELATED OBSERVABLES represented by non-curricular goals
Administrative Planning Phase
(1) Formulation of relevant instructional objectives, procedures, and organization for participants as a GROUP
(2) ASSESSMENT of each participant's interests, needs, behavior patterns, and response capabilities
(3) Formulation of relevant instructional objectives, procedure , and organization for INDIVIDUAL participants
Instructional Planning Phase
(1) INITIATION of planned instructional and non-curricular activity
(2) ONGOING ASSESSMENT of instructional and non-curricular activity
(3) Modification and ongoing MANAGEMENT of instructional and non-curricular activity
Implementation Phase
(1) DESCRIPTION of program
(2) JUDGEMENT of program
Evaluation Phase

Figure 2. The Sequence of Major Tasks Involved in Planning, Implementing, and Evaluating Personnel Preparation Programs.

the dissemination, installation, and maintenance of change.[11] We also would re-emphasize that such a program should be conceived of as involving (a) a pre-service phase, encompassing the period up to the point where an individual is adjudged to be at least minimally qualified for the change agent role and (b) an in-service phase, encompassing all subsequent formal education related to that particular role and designed to develop a high level of professional competence. Ideally, subsequent needs analyses of the change agent's role, functions, and intended impact will expand our understanding of the comprehensive range of knowledge, skills, and attitudes which must be learned. Such analyses also should help to clarify the levels of minimal competence which should be attained prior to "certification," and, concomitantly, will clarify what the specific focus of the subsequent in-service program should be.[12] It also is worth restating that the instructional process employed in helping program participants develop needed competence should involve coordinated and integrated academic, observational,

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[11]In this context, it is interesting to note what the experts have to say about change agent characteristics, attitudes, knowledge, and skills. For a brief discussion of such matters, see Appendix A. In addition, Appendix C is an abstract describing alternative training models for change agents as presented in Havelock and Havelock, Training for Change Agents (1973).

[12]It should be emphasized that the in-service program may not need to focus on the development of substantially new, general abilities, but may only require an increase in level of competence. (This also may be the case for many variations in on-the-job demands. For example, a teacher in a classroom which contains youngsters who manifest severe learning and performance handicaps, i.e., special education classrooms, as contrasted with a teacher who does not have such youngsters, probably needs a higher level of competence in certain areas--but not substantively different, general abilities--to perform acceptably. This is not to say, however, that (s)he won't need to learn some new, specific procedures [Adelman, 1972].)

and participatory experiences, with special emphasis on utilizing a comprehensive apprenticeship-like model whenever it is appropriate and feasible and on accommodating individual differences among program participants. In addition to its instructional facets, we have come to recognize that a personnel preparation program needs to state explicitly its non-curricular goals, i.e., goals related to administering the program and to performing relevant research, in-service training, and public service functions. And since the program has both instructional and non-curricular goals, the evaluation efforts should attempt to assess the program's positive and negative effect on the participants, on the pupils who are directly or indirectly affected by the participants, on the relevant communities, school districts, and institutions of higher education, and on the field in general.

Instructional Content and Process

For purposes of the following discussion, which briefly reviews the topics of curricular planning, instructional planning, implementing instruction, and program evaluation, it is helpful to state our major goals for program participants. These highly abstract goals are: "Each participant is to acquire the ability and desire to plan, implement, and evaluate systematically (1) a regular classroom instructional program which will improve the educational opportunities both of pupils in the general population and pupils with learning/behavior problems and (2) a program which results in the widespread diffusion of such a classroom program." With these goals as critical referents, we can focus our discussion on the process of curriculum planning.

Curricular Planning. Curriculum planning is the process by which the above goals are translated into an organized package of generic instructional objectives and procedures. Because of the complexity of this process, we do not have a "package" which can be presented here. What we do have is a framework (and some resources) which can be used in developing such a package.

Content--From the above goals, we have derived, empirically and rationally, eight areas for instructional focus, i.e., a focus on program rationales, curricular planning, evaluational planning, administrative planning, instructional planning, program implementation, program evaluation, and "tools" needed to help advance the field. Based on our previous experiences, an additional preliminary area has been added, i.e., a focus on "tools" needed for learning what is taught in the program itself.[13] In each of these areas, we have identified major components in a hierarchical fashion (see Table 1).

Concomitantly, in our work, we categorize these area sub-divisions with reference to the type of instructional focus involved, namely, whether the focus is on acquiring (1) facts, (2) concepts, (3) skills, (4) behaviors, and/or (5) attitudes. While these five "types" obviously

[13]As I have indicated elsewhere (Adelman, 1972a), in planning program content, one must consider what is required for success in the program itself. For example, there may be skills needed for successful learning and performance in the preparation program which are not essential to successful performance in a given professional role. Thus, a systematic analysis of what is required for successful completion of the program is needed in order to (1) reform the curriculum, (2) improve selection procedures, and (3) plan early corrective action to improve the participants' chances of success.

TABLE 1

Major Sub-Areas for Instructional Focus

I. Tools Needed for Learning and Performing in the Program
   A. Procedures for Inquiry
      1. Reasoning
      2. Critical Reading
      3. Listening
      4. Learning and Performing Independently and Cooperatively Using Self-evaluative Feedback
   B. Procedures for Task-Oriented Communication (Sending and Receiving Messages)
      1. Non-verbal and Verbal Informative (Body Language; Written and Oral Language)
      2. Non-verbal and Verbal Interactive (Particularly Helping Relationships and Problem Solving)
   C. Survey of Major Concerns Confronting the Field of Education
      1. Programmatic
      2. Population
      3. Evaluative

II. Program Rationale
   A. Purpose of Educational Programs
      1. Socio-Political-Economic
      2. Learner Self-actualization
   B. Forces Which Shape the Educational System
      1. Socio-Political-Economic
      2. Ideological
   C. Body of Theoretical and Empirical Knowledge Upon Which Programs Should Be Based
      1. Growth and Development
      2. Learning and Performance
      3. Motivation
      4. Instructional Content and Process
      5. Assessment, Evaluation and Research Processes
      6. System Ecology
      7. The Growing Field of Education

III. Curricular Planning
   A. Evolution of Relevant Generic Curriculum
      1. Instructional Content
      2. Instructional Objectives
      3. Instructional Procedures
      4. Curriculum Organization
   B. Identification of Relevant Observable Behaviors
      1. Relationship Between Observables
      2. Implications for Program Planning, Implementation, and Evaluation

IV. Administrative Planning
   A. Formulation of Non-Curricular Goals, Objectives, and Procedures
      1. Administrative
      2. Research
      3. In-service Training
      4. Public Service

B. Identification of Relevant Observable Behaviors
   1. Relationship Between Observables
   2. Implications for Program Planning, Implementation, and Evaluation
C. Identification of Available Resources, Organizational Alternatives, and the Population to be Served
   1. Techniques for Analyzing Resources
   2. Implications of Resource Availability for Recruitment, Selection and Admission of Program Candidates
   3. Principles and Practices of Administrative Organization
D. Decision Making Regarding Dispersal of Population and Resources and Scheduling
   1. Recruitment, Selection, Admission, and Dispersal of Population
   2. Deployment of Resources
   3. Continuous Monitoring of Resource Use
   4. Scheduling Relevant Program Planning, Implementation, and Evaluational Activities

V. Evaluational Planning
A. Formulation of Relevant Instructional or Non-Curricular Evaluation Procedures
   1. Identification of Available Procedures
   2. Adoption or Adaptation of Available Resources
   3. Development of New Procedures
B. Specificity of Evaluation Procedures
   1. Generic
   2. Program Specific

VI. Instructional Planning
A. Modification of Relevant Generic Curriculum to Accommodate the Specific Groups to be Served
   1. Broad Band Assessment
   2. Evolution of Instructional Objectives, Procedures, and Organization for Specific Groups
B. Modification of the Group Plan to Accommodate Individuals
   1. Narrow Band Assessment
   2. Evolution of Instructional Objectives, Procedures, and Organization for Specific Individuals

VII. Program Implementation
A. Initiation of Planned Program
   1. Facilitating Activation of Participants
   2. Facilitating Focused Behavior
   3. Facilitating Initiation of Activity
   4. Facilitating Maintenance of Participation
   5. Facilitating Appropriate Communication Between Participants Regarding Results
   6. Strengthening Learning and Performance Patterns
B. Formative Evaluation
   1. Description of Instructional and Non-Curricular Antecedents, Transactions, and Outcomes
   2. Judgement of Instructional and Non-curricular Antecedents, Transactions, and Outcomes
   3. Decision Making

C. Modification of Planned Program
    1. Modification of Instructional Objectives, Procedures, and Organization
    2. Modification of Non-curricular Objectives and Procedures
D. Ongoing Management of Program
    1. Materials
    2. Methods
    3. Behavior Settings

VIII. Program Evaluation
A. Description
    1. Identification of Intended Antecedents, Transactions, and Outcomes
    2. Measurement of Anticipated (Intended) Antecedents, Transactions, and Outcomes
    3. Identification and Measurement of Unanticipated Outcomes
B. Identification of Standards
    1. Absolute (Criterion Referenced)
    2. Relative (Norm Referenced)
C. Judgements and Decision Making
    1. Derivation of Implications Based on Judgements of Intended and Actual Antecedents, Transactions, and Outcomes
    2. Derivation of Implications Based on Judgements of Unanticipated Outcomes
    3. Initiation of Action

IX. "Tools" Needed to Help Advance the Field
A. Methods for Inquiry
    1. Purpose of Educational Inquiry
    2. Types of Methodological Activity
B. Planning and Implementation of Activities for Inquiry
    1. Designing Internally Valid Inquiries
    2. Special Techniques for Specific Activities
    3. Derivation of Externally Valid Implications
C. Development and Diffusion of Prototype Program Models
    1. Development of Feasible Prototypes
    2. Dissemination, Installation and Maintenance of New Programs

could be subsumed under the rubrics cognitive, psychomotor, and affective domains, we have found it more comfortable to work with the five categories named above. Whatever terms are used, however, the important point for emphasis is that such all-inclusive terms as "knowledge" and even the phrase "knowledge and skills" tend to mask the full nature of the content which merits instructional focus.

The matrix we have evolved as part of our conceptual framework for generating the instructional content of any program designed to prepare such educational personnel as teachers, supervisors, consultants, and instructional "resource" professionals (such as change agents) is presented in Figure 3. Potentially, each cell of the matrix represents a segment of such a program's content which can be evolved into sets of instructional objectives for preparing prospective change agents.[14]

At this point in the discussion, it is worth emphasizing that regardless of the approach used in evolving instructional content any specification and grouping of the set of observables encompassed by a goal-construct essentially constitutes a theory regarding how such observables relate to one another. For every program of systematic instruction, then, such theory is a primary basis for all subsequent program planning, implementation, and evaluation. From this perspective, the problem of developing better instructional objectives is viewed as involving theory building as well as empirical identification of what is required for successful performance of various school roles and

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[14]See Adelman (1973a) and Carpenter and Hull, (1973) for a discussion of some key sources of information for generating instructional content.

functions with differing populations.

As is suggested above, the matrix presented in Figure 3 is very useful in shaping the nature of the instructional content of our program. In limiting the scope of program content, we are concerned primarily with two major dimensions. One dimension encompasses the timing for instructional focus; the second encompasses the degree of mastery and/or involvement to be achieved by the program participants. The former is concerned with matters such as the patterning, sequencing, and duration of instruction. The latter is concerned with the level to be attained with reference to each instructional objective which has been evolved. That is, given continua ranging from low to high levels of cognition, performance ability, and attitudinal involvement, what levels are to be attained? The final answer to this question, of course, must reflect the level of competence that will be acceptable in performing a given job function or set of job functions--thereby, once again, emphasizing the importance of evolving specific knowledge of on-the-job requirements. At this time, in determining whether satisfactory levels of competence have been attained to warrant certification, a reasonable strategy seems to be that of evaluating at appropriate times complex, major behavioral outcomes, e.g., the instructional plan for a given day, a total day of instruction, a critique of a research article, and so forth. In judging the adequacy of such behavior, I am afraid we will have to rely on a combination of expert judgement and relative comparisons (e.g., among the program participants) until we finally establish, empirically, some appropriate standards.

Ultimately both the nature and the scope of instruction are limited by the decision making process which leads to the adoption of certain instructional objectives and the rejection of others. Decision making as to what constitutes an appropriate instructional objective, of course, is a complex task. It involves the application of criteria for judging (1) the "power" (usefulness) of what is to be learned--this includes questions of construct validity and content generality--and (2) the"economic" feasibility of what is to be taught--this includes consideration of (a) the total number and level of objectives to be accomplished using a given amount of time, space, teacher competence, etc., and (b) the characteristics of the individual to be instructed.

Objectives which are both potentially powerful and economical generally will encompass more than one observable behavior and will be stated at a somewhat low level of specificity. (The lower the level of specificity, the higher the level of abstraction.) From this perspective then, the argument that all instructional objectives should be stated with a high degree of specificity is seen as fallacious. What is important is that the observables encompassed by an instructional objective be identified and understood. (See Figure 2 and note that in the curricular planning phase after relevant generic instructional objectives and procedures are evolved there is still the task of identifying the set of related observables represented by the supra-ordinate goals.) Indeed, it should be reemphasized that instructional objectives should be stated with a low level of specificity (a) whenever it is more economical to teach at a low level of specificity because of the likelihood of good transfer of training, e.g., whenever the "whole"

(a general principle) can be taught appropriately instead of having to teach each separate part (each specific case), and (b) in many instances when only a low level of mastery and/or involvement is to be attained, e.g., teaching teachers about curriculum theory. Furthermore, instructional objectives will be stated at a low level of specificity whenever the set of related observables represented by the program goals are not very well identified or agreed upon.[15]

Ideally, every component encompassed by an instructional objective should be identified even when such objectives are fairly abstract. However, this frequently will not be the case. As a result, systematic efforts designed to plan, implement, and evaluate programs for change agents (and all other education professionals) must settle for being less than ideal, at least for the present. For example, when many of the specific components of an instructional objective are not known, such objectives will be imprecisely understood and subject to varying

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[15]It should be noted that in the literature on the use of objectives in curricular and instructional planning some writers distinguish between general, terminal and enabling objectives, each of which is seen as serving a different purpose. Ammerman and Melching (1966) state: "The general objectives consists of statements of general performance, such as jobs, duties, functions, or other activities that incorporate more than one meaningful unit of performance. . . . They are useful as very brief descriptors of the instructional objectives, but they are too general to be meaningful and useful in designing learning experiences" (p. 76 in Merrill, 1971). "A meaningful unit of performance is an activity that would be done in its own right in the intended work situation. . . . Student performance objectives in which the student action is stated at the level of a meaningful unit of performance are called terminal objectives. . . . After the terminal student performance objectives have been established, the next activity is directed at determining what the student needs to learn; that is, to determining the enabling objectives. . . the component actions, knowledges, skills, and so forth, the student must learn if he is to attain the terminal objectives" (p. 75 in Merrill, 1971).

interpretations thereby producing undesired variations in program outcomes. In addition, the lack of knowledge regarding such components has a negative effect on program evaluation efforts by hindering the process of sampling what program participants have been learning.

The above discussion should not be interpreted as an argument for limiting change agent preparation programs to instructional objectives for which all components are known. To the contrary, as has been stated above, given our current state of knowledge, in all areas for instructional focus many important components are poorly understood or are not readily observed (measured), and thus instructional objectives which are intended to encompass these components can only be formulated at a rather high level of abstraction and ambiguity.[16]

The organization of content for purposes of instruction is discussed in a subsequent section of this paper. In anticipation of that discussion, it should be noted here that instruction is not always organized around a given instructional objective. Frequently, instruction is better facilitated by grouping a number of instructional objectives under one or more organizing topics.

Instructional Procedures--Once a set of generic instructional objectives have been evolved, the focus of curricular planning shifts to the problem of establishing a set of generic instructional procedures which can facilitate the acquisition of the objectives by the program

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[16]Two products of our project activity provide references to a sampling of the listings of objectives which currently are available (Adelman, 1973a; 1973). Obviously, our view is that such listings should not simply be adopted but should be used as a resource for deriving instructional content.

participants. Such procedures may be thought of in terms of what the instructor does in order to facilitate the program participants' involvement in appropriate experiences. As indicated in Figure 4, (a) the instructor's procedural concerns can be categorized as involving methods, materials, and behavior settings, and (b) the program participant's involvement can be categorized as academic stimulation, practice, and communication-oriented experiences.

With reference to these categories of procedures and experiences, such questions arise as: What methods and materials should a program participant experience? Where and how long should these methods and materials be experienced? What population(s) should be focused on? Who should be involved in facilitating the instructional process? These questions serve as a general framework for the discussion which follows.

The answers to these questions require: (1) the identification of a variety of potentially useful procedures (and, where necessary, an indication of how to locate and use such procedures); and (2) the selection of those procedures which can appropriately facilitate the acquisition by the participants of the program's instructional objectives (see Figure 5). (The selection of procedures involves the assessment of time, cost, and performance demands for alternative procedures--followed by the elimination of procedures which are inappropriate because such demands are unrealistic or unfeasible at the present time.)

A general discussion of these topics and questions is presented elsewhere (Adelman, 1973a; Carpenter and Hull, 1973). For our purposes here, it will suffice to highlight the following points.

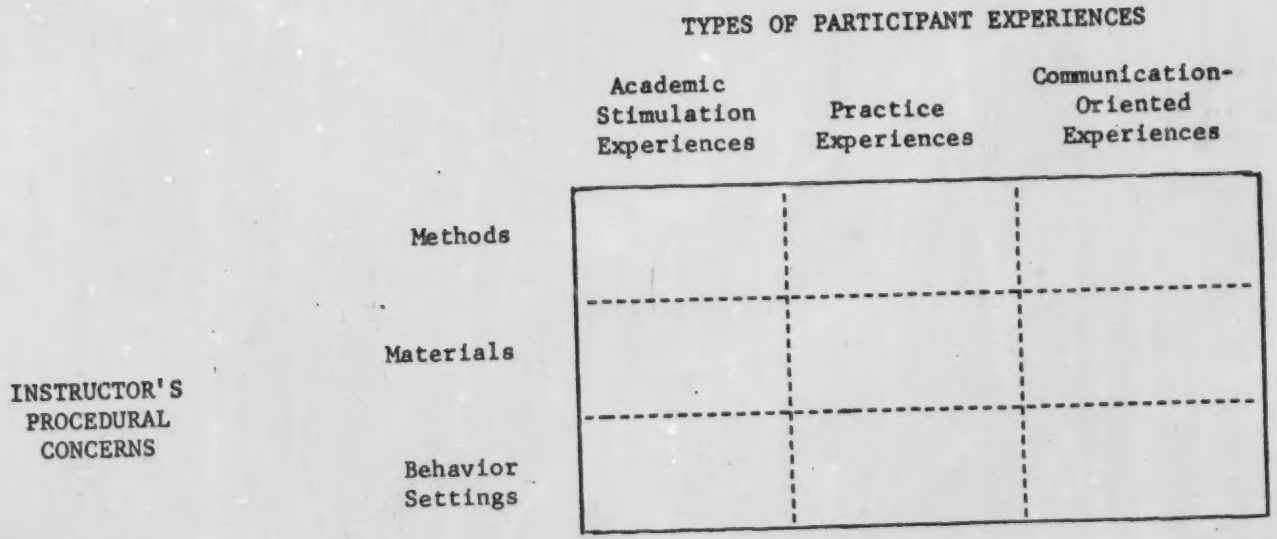

Figure 4. Instructor's Procedural Concerns With Reference to the Types of Experiences in Which Participants will be Involved.

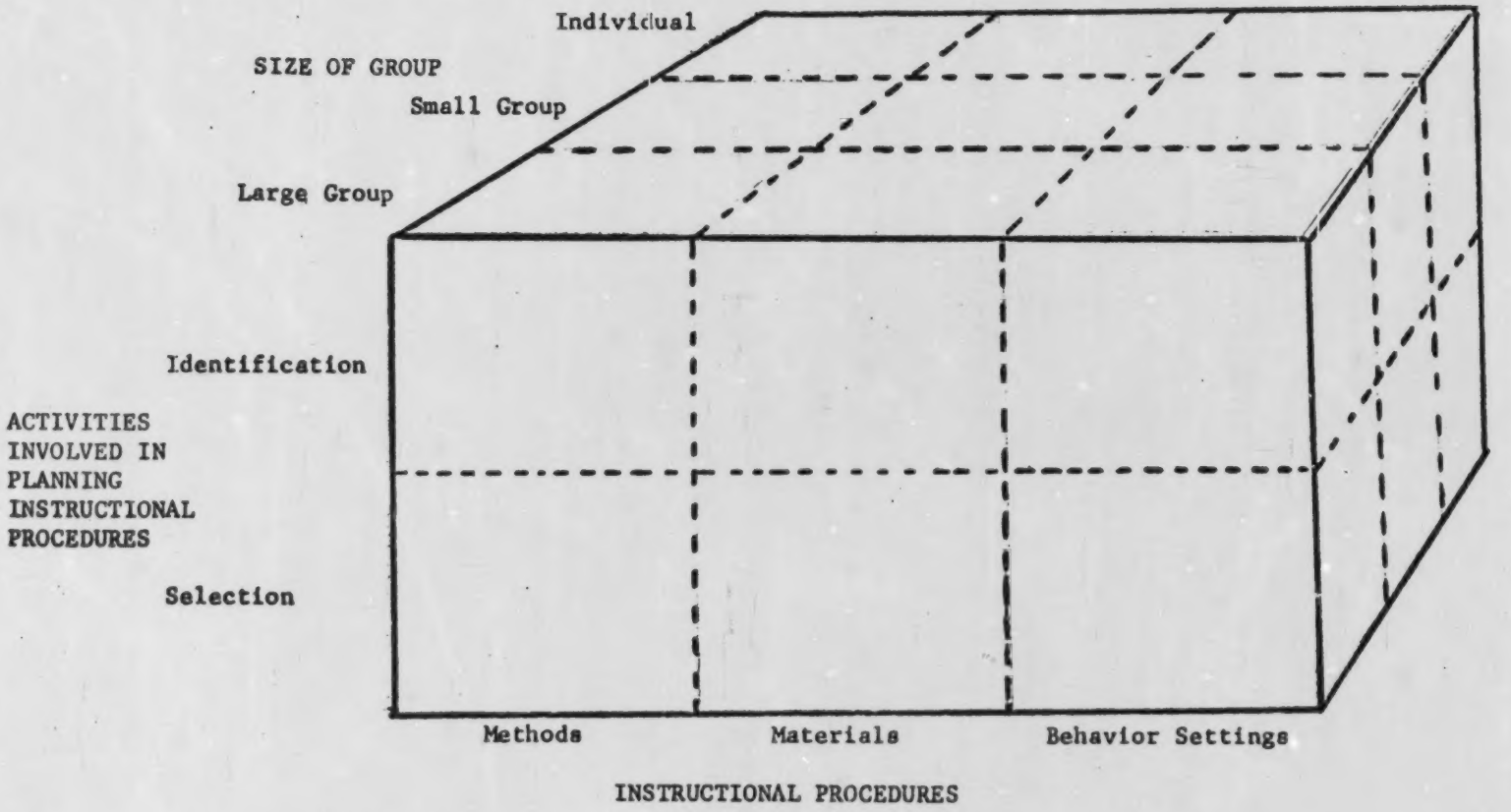

Figure 5. Some Key Factors Related to Planning Instructional Procedures

1) Methods can be differentiated into models of teaching, activities and techniques and defined as follows:

Models of Teaching--"a pattern or plan, which can be used to shape a curriculum or course, to select instructional materials, and to guide a teacher's actions." The model used by an instructor has " . . . much to say about the kinds of realities which will be admitted to the classroom and the kinds of life-view which are likely to be generated as teacher and learner work together" (Joyce and Weil, 1972b, p. 3). It should be noted that some models are more prescriptive than others with reference to the types of activities and techniques which are to be employed.

Activities--specific types of experiences which a student can be involved in alone or with other students and/or with instructors, academic stimulation such as reading a book, practice such as teaching a child, communication-oriented experiences such as group meetings. Such experiences may or may not be prescribed by a particular model.

Techniques--building certain specific characteristics into the stimulus, response, and feedback facets of an activity, e.g., use of varying combinations of sense modalities such as Fernald's tracing (AVKT) technique for learning words; varying intensity, duration, patterning, cueing; requiring overt responding; variations with reference to incentives and reinforcement such as contingency management.

2) In discussing instructional (including related assessment) materials, it is helpful to differentiate between the medium and the message. For example: Media include (1) machines, (b) prepared

materials such as films, audio and visual recordings, packaged programs, textbooks, tests, and other verbal and graphic representations; (c) special apparatus and other real objects; and (d) the instructor and other resource people. The message is the instructional content which we have categorized in this presentation as being facts, concepts, skills, behaviors, and attitudes (see Figure 3).

At times, the distinction between methods and materials and, indeed, between content and procedures tends to be too artificial. For example, with great relevance for this discussion and again anticipating the subsequent discussion of curriculum organization, several writers have identified a curricular concept called an organizing center. Such a center is "the theme, topic, problem, or project which gives immediate purpose and direction to the undertaking of a number of learning experiences. The popularity of an organizing center stems from the assumption that learning best occurs when the learner is confronted with a problematic situation. In the resolvement of the problem, relevant information, methods, and details acquire significance. Further, the tension generated by the problem is believed to 'motivate' the learner" (McNeil, 1965, p. 79). (It should be remembered that the organizing center is only a focal point for facilitating learning with regard to specified instructional objectives, e.g., the program participants' completion of a project is of secondary importance to their learning the content represented by the instructional objective.)

3) Once decisions are made with reference to what methods and materials might be used to accomplish the generically formulated instructional objectives, the focus in curriculum planning turns to the

questions which involve decision making regarding the behavior settings, the length of time to be devoted to various experiences, and the population(s) to be focused upon. Generally speaking, (a) the behavior settings may vary in terms of organizational format for instruction (e.g., staffing pattern, student grouping), type, locale, and scope (e.g., public-private; school-community, degree of uniqueness; sparse-ample facilities and equipment; minimal-maximal availability and use) and climate (e.g., interpersonal, intrapersonal, physical)--see Table 2; (b) a participant's experiences may vary temporally from brief to extensive and from intermittent to continuous involvement;[17] and finally, (c) such experiences may be designed to expose participants to a variety of adult populations, e.g., teachers, consultants, other professionals, parents, etc., and to a variety of pupils, e.g., who are of different ages, who are considered exceptional children, and so forth.

4) With reference to the question of who should be involved in facilitating the instructional process, decisions regarding who will have primary responsibility likely will vary with the locality. This is true for specific activities and for the program as a whole. In both cases, who has the responsibility is probably not as important as that someone has it, for it is that someone who must be certain that there is coordination and integration. With reference to the total program, the responsibility could be centered in one agency--e.g., an institution

[17]It should be clear that, before completing the program, a participant will spend a large portion of time in the "field" (as contrasted to time spent in university or college classrooms).

TABLE 2

BEHAVIOR SETTINGS

Climate	Type, Locale, and Scope	Organizational Format
1. Interpersonal	1. Type and Locale (e.g., private-public; school setting--preschool to university; community setting; specific unique setting such as a preschool class for the orthopedically handicapped; general setting such as a regular public school classroom)	1. Student Grouping (e.g., individual study course, seminar, large lecture class; ability, interest, need, or random grouping)
2. Intrapersonal	2. Scope (e.g., sparse-ample facilities and equipment; minimal-maximal availability and use of facilities and equipment)	2. Staffing Pattern (e.g., horizontal or vertical teaming; use of aides, volunteers, tutors, specialists)
3. Physical		3. Structure (e.g., instructor-student- or joint-controlled; specified or open-ended transactions and outcomes; whether products are required or not)
		4. Supervision (e.g., comprehensive apprenticeship--self-evaluation; systematic ratings--off-the-cuff observations)

of higher education, or a school district, or it could be shared by several agencies.

5) After potentially useful procedures have been identified, the next major activity involves the selection of those procedures which appear to be most appropriate for achieving the generic instructional objectives. In doing such selection, Adelman (1972b) has suggested that the problem is first of all one of determining which procedures have the most potential for (a) attracting and focusing program participants on relevant stimuli; (b) initiating and maintaining appropriate participation; (c) producing appropriate communication between instructors and program participants regarding results; and (d) strengthening preceding learning and behavior patterns of program participants and instructors. Given two procedures which are of equal potential with regard to such criteria, selection would be based on the procedure's likelihood of producing "side effects." That is, if one of the procedures not only produces the desired instructional outcomes, but also produces undesired side effects, it would not be given preference. In contrast, a procedure which produces both the desired outcome and other positive outcomes (or reinforces the desired outcome) would be strongly favored.

Curriculum Organization--After appropriate instructional content and procedures have been identified and selected, there is a need for patterning and sequencing, e.g., determining whether there is a need for certain instructional objectives and procedures to be placed in a particular juxtapostion to one another. As should become clear from the following discussion, one organizes the content and then, if necessary,

readjusts the procedures which tentatively have been selected for use in teaching that content. It also should be evident that such organizational problems permeate a program's curriculum. That is, each unit or module has to be organized internally and has to be coordinated and integrated with other program curriculum units. (At this point in the discussion, a unit or module can be described as consisting of a coordinated and integrated set of instructional objectives and procedures which relate to a specific sub-area of instructional focus such as the sub-areas presented in Table 1.)

In discussing such curriculum organization, McNeil (1965) suggests that "good cirriculum organization meets three specifications: (a) There is planning for review and reiteration of that which has been learned . . . (this is called) the criterion of continuity. (b) . . . the curriculum must extend that learning in depth . . . (called) the criterion of sequence. . . . (c) The skills, values, and concepts taught in one area of study should be related to the other areas of study . . . the criterion of integration. . . ." (pp. 68-69). McNeil continues: "The heart of the organizational problem is being clear about the instructional objective and identification of the steps necessary to its attainment. Subsidiary questions involve how best to order these steps for effective learning. . . . Unfortunately curriculum inquiry has not advanced to the place where we know what constitutes necessary steps in the attainment of objectives. Many so-called prerequisites are just so much busy work" (pp. 69-70).

Planning for equivalent and analagous practice (e.g., review and reiteration) is a rather self-evident activity. Sequencing, however,

requires some organizing principles, and a number of suggestions have been offered, e.g., chronological presentation, emphasis on breadth or on depth of application, easy to difficult, part to whole, simple to complex, concrete to abstract, theory then practice, familiar to unfamiliar, and so forth. Unfortunately, it is uncertain when a specific principle should be applied. That is, while a part to whole sequence may be appropriate for accomplishing one objective, a whole to part sequence might be more appropriate for another objective, and a combination of both may be more appropriate for a third.

If the situation is viewed as bad with regard to sequencing principles, it can only be viewed as horrendous with regard to organizing principles for facilitating the integration of the various components of instructional content.[18] It is clear that the knowledge base for evolving a coordinated and integrated curriculum is very weak. Thus the task remains more of an art than a science or even a craft.

In practice, it appears as if few programs have even attempted significant coordination and integration within the pre-service or in-service phases and/or between these two phases. Most commonly, the different experiences are initiated haphazardly, with little awareness of what competence a participant already has acquired and with little,

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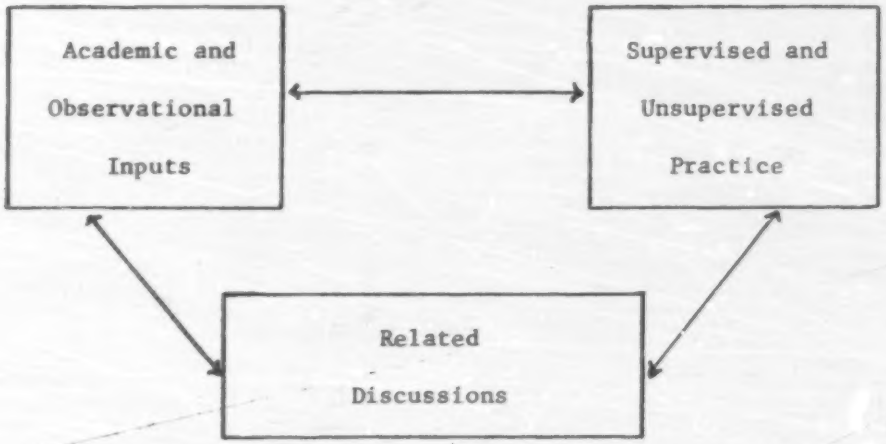
[18]One relevant construct frequently emphasized in the literature on change is that of synergy. This construct emphasizes the need for redundancy and diversity (e.g., repeated inputs from different sources), and, hopefully, synchronicity. As Havelock and Havelock (1973) state: "The simplest example of synergy occurs when two separate individuals give the same piece of advice. Two inputs from two different sources are far more persuasive than the same input from only one source. In a sense, synergy produces a validation of experience."

if any, coordination with other concurrent or future activities or with other program experiences.

The types of planned relationship between academic, observational, and participatory experiences which should be occurring is represented in the diagram below. As may be seen, there should be constant interaction between the various types of experiences. For example, when a demonstrable



concept or technique is introduced academically, the program participant should have the opportunity to observe a demonstration and to engage in unsupervised practice, as well as in supervised practice where he can receive guidance, feedback, and additional demonstrations; in addition, he should have the opportunity to raise questions for discussions based on his academic and participatory experiences. In turn, the feedback which these discussions provide should help those responsible for the program to determine what should be presented, practiced, and discussed subsequently.

In organizing these experiences, the notion of organizing topics

and centers mentioned earlier is a very helpful concept. A corollary idea which has been receiving increasing attention recently is the concept of instructional modules.[19] A good example is found in the work of Arends, Masla, and Weber (1973). These authors define such a module as "a set of learning activities intended to facilitate the student's achievement and demonstration of an objective or set of objectives," (p. 3). The elements of such a module are described as "an objective or objectives, prerequisites, pre-assessment procedures, learning alternatives, post-assessment procedures, and remediation procedures" (p. 22). In keeping with the discussion presented earlier in this chapter, it should be noted that some programs build each instructional module around a group of related observables; others build a series of modules, each of which encompasses only one or two observables. Paraphrasing Arends, Masla, and Weber (1973), whichever format is used, the point is clear: a single observable outcome can rarely stand alone. "Human behavior is far too complex a process to expect isolated outcomes to be meaningful" (p. 22). It also should be noted that instructional modules may produce outcomes which have not been specified in advance, i.e., which are unanticipated. Such outcomes may be undesired or they may be previously unidentified components of a somewhat abstract intended instructional objective. Other discussions of modules may be

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[19] As Jones (1972) points out, such units also have been called a molecule, a UNIPAC, a WILKIT (Weber Instructional Learning Kit, Weber State College), and so forth. Joyce, Morine, Weil and Wald (1971) list and describe many modules which can be ordered. The resource guide regarding instructional planning which is a companion work to the present monograph also provides additional discussion and references to modules.

found in Altman, Chandler, Connoly, and Meyen (1971), Houston, Hollis, Jones, Edwards, Pace, and White (1971), and in Joyce, Morine, Weil, and Wald (1971).

Again, it should be emphasized, however, that ideas such as topics, centers, and modules are only focal points for facilitating organization and learning with regard to specified instructional objectives.

While coordination and integration of key experiences are necessary facets of a program, it is important to recognize that such coordination and integration are not sufficient. The experiences must be qualitatively good and quantitatively appropriate. Of special importance in this connection may be whether or not a program uses a comprehensive "apprenticeship-like" process with reference to those experiences which involve supervised practice. Most supervised practice rarely resembles a comprehensive apprenticeship process since one of the most important aspects of the apprenticeship model generally is missing. This aspect is the opportunity (a) to observe the "master" perform his craft, (b) to have supervised practice with regard to what was learned, and then (c) to observe some more, and so forth in cyclical fashion until the level of minimal competency is reached and assured. Indeed, it is one of the great ironies of pre-service programs that participants so rarely have the opportunity to watch a "master" perform (i.e., plan, implement, and evaluate) for an extended period of time.[20]

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[20]For example, in practice teaching the student often is required to assume responsibility for the entire operation of the class by the second week of the assignment and from that point on only has verbal exchanges with the supervising teacher. As a consequence, many teachers have served their apprenticeship without having had the valuable experience of

In view of the complexity of the various facets or curricular planning which have been summarized in this section,[21] it seems evident that such planning requires a good deal of resources, particularly individuals with expertise in curriculum development. (Unfortunately, it has only been recently that any significant amount of resources have been directed toward curricular planning for personnel preparation programs; and in no way are these resources seen as being sufficient.) Of course, as has been suggested above, even the most expertly planned curriculum requires effective implementation. And, prior to its implementation, there is a need for appropriate evaluational, administrative, and instructional planning. Again, it is emphasized that these topics are discussed elsewhere (Adelman, 1973a; Carpenter and Hall, 1973; Duchon, Hull, and Carpenter, 1973). In the following section discussion is limited to summarizing some key points with reference to planning and implementing instruction and evaluating the program.

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seeing their supervising teacher perform over a period of several weeks--that is, they were deprived of the chance to see a good model of teaching. And, of course, once a teacher accepts a full-time position, there are few opportunities for observing a colleague perform for any length of time. Thus, many teachers have not truly served an apprenticeship; it is interesting to speculate as to the impact this has had on their performance. It is recognized that a major problem hampering the use of a comprehensive apprenticeship process is the lack of agreement as to what constitutes a "good teacher." This problem, however, should not be allowed to overshadow the potency of modeling as an instructional process in preparing change agents (see McKnight, 1971; Gage, 1972).

[21]With the above discussion as background, the reader should review the "Sample Model of a Fully Developed Training Design" for preparing change agents (in Havelock and Havelock, Training for Change Agents, 1973). An abstract of this and other alternative models for training such personnel is presented in Appendix C of this monograph.

Instructional Planning. The reader probably already has recognized that much of the planning which has been discussed as occurring during a curricular planning phase does not happen currently. Therefore, the general tasks involved in curricular planning are left for the instructional planning phase. This, indeed, is unfortunate since the specific tasks involved in the instructional planning phase are demanding enough.

In contrast to curricular planning, instructional planning should deal with the problem of deciding the specific nature and scope of a particular program's instructional content and process. Three major tasks of instructional planning are explored here: (1) the formulation of relevant instructional objectives, procedures, and organization for participants as a group; (2) the assessment of each participant's interests, needs, behavior patterns, and response capabilities; and (3) the formulation of relevant instructional objectives, procedures, and organization for individual participants.

Permeating these three tasks are the processes of: (1) identifying the types and location of available assessment procedures and curriculum packages (e.g., an organized set of generic instructional objectives and procedures and related evaluation procedures); (2) adopting or adapting appropriate and feasible assessment and curricular resources when they are available; (3) developing new assessment and curricular resources when necessary and within the limits prescribed by time, cost, competence, and so forth (see Figure 6).

If appropriate curricular and administrative planning have been accomplished, the first task of instructional planning encompasses

PROCESSES

TASKS	Identifying available assessment procedures and curriculum packages	Adopting or adapting appropriate assessment and curricular resources	Developing new assessment and curricular resources
Formulation of relevant instructional objectives, procedures, and organization for participants as a group.			
Assessment of each participant's interests, needs, behavior patterns, and response capabilities.			
Formulation of relevant instructional objectives, procedures, and organization for individual participants.			

Figure 6. Key Tasks and Processes Related to Instructional Planning

the following steps: (a) reviewing the assessment data on the candidates who have been admitted to the program (with an awareness of the limitations of such data), (b) identifying and selecting curriculum and evaluation packages which are judged to be appropriate for such candidates, and, if necessary, (c) modifying (adding to, altering, deleting from) such packages. Such planning can be accomplished prior to meeting with the program participants and provides much of the framework for implementing instructional and evaluational activity.

In addition, however, if a program is to be effectively personalized, instructional planning also must involve finding out more about the individual program participants than can be found in the initial selection data. Such an assessment can be accomplished through additional testing, questionnaires, interviewing, and observation. We have found it particularly helpful to set up the first few contact sessions as orientation and assessment sessions (rather than as lectures or general discussions). The major purposes of these sessions is to gather information and to involve the participant in planning variations in environmental circumstances in order to facilitate an appropriate match between (a) a participant's interests, needs, behavior patterns, and response capabilities and (b) the instructional objectives, procedures, and organization. The success of such instructional planning will be reflected by the reduced amount of trial and error and redundancy required to produce appropriate learning outcomes and the addition of personalized procedures and outcomes. For example, such "pre-assessment" can result in (a) the addition of instructional objectives designed to develop prerequisite skills which a candidate may not

have acquired, (b) the deletion of objectives in areas where the candidate already has attained the appropriate degree of mastery, and (c) the addition of "enrichment" opportunities for specific individuals, e.g., some candidates may want to learn to speak Spanish because they are planning on working in areas which serve Spanish-speaking populations.

The assessment procedures which provide the information needed for such instructional planning can be categorized (as can instructional practices) in terms of whether they are designed for large groups, small groups, or an individual. Thus, we label practices designed for use with large groups "broad-band" practices and those designed for small groups or individuals are categorized as "narrow-band" practices. In this context, it can be emphasized that in planning which broad-band teaching practices to use, the instructional planner should know about the general interests, needs, behavior patterns, and response capabilities of the candidates who have been accepted into the program. Fortunately, (s)he may already know something about such factors because of knowledge about past program participants and available normative data about human behavior. Assessment in such instances, then, essentially is a matter of determining whether or not most of the program participants correspond to such norms. If a particular group of candidates varies significantly from such norms, the assessment data provide useful information for planning broad-band instructional practices which will allow for an "appropriate match" for the large majority of participants. For economical and other reasons, such assessment data can and should be gathered through the use of broad-band

assessment practices. In planning which narrow-band instructional practices to use, the instructional planner should know about the specific interests, needs, behavior patterns, and response capabilities of a particular participant. (Again, our knowledge of behavioral norms will be helpful.) Assessment in such instances is oriented to the individual and should be designed to provide specific guidance for varying environmental circumstances to facilitate learning for that individual. While broad-band assessment practices (e.g., standardized aptitude tests) often can be used for such purposes, narrow-band assessment practices (e.g., personal interviews) usually are necessary as well.[22]

Based on such broad- and narrow-band assessment data, then, instructional planning can be directed at making any necessary and appropriate modifications with reference to available curricular and evaluative resources. That is, (a) available curricular and evaluation resources can be adopted or adapted and, if necessary, (b) new curricular and evaluation resources can be developed. Once these instructional planning activities are accomplished, final pre-instruction decisions can be made regarding scheduling, grouping students, and deploying paid and volunteer personnel.

Implementing Instruction. At this point, it should be noted that it is

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[22]Merrill (1971) discusses three types of pre-tests: (1) prerequisite pre-tests, designed to determine whether the student has acquired needed antecedents, (2) diagnostic pre-tests, designed to determine if the student already has acquired aspects of the intended instructional outcomes, and (3) terminal behavior pre-tests, designed to see if the student already is performing to criteria with reference to intended instructional outcomes.

assumed that all learning which occurs in a "classroom" is not, will not, and should not be the result of an instructor's efforts to provide formal instruction. For example, it seems evident that no instructor is able to teach successfully all the skills which can be detailed and sequenced as being needed by the beginning teacher who will be teaching reading; even if it were possible, there is no satisfactory evidence that this type of approach to the instructional and learning processes is necessary or desirable. In keeping with this assumption, the instructor's function is viewed not only as that of instruction, but of facilitation as well, i.e., a person who leads, guides, stimulates, clarifies, supports. Consequently, (s)he must know when, how, and what to teach and also know when and how to structure the situation so that students can learn on their own.[23] Of course, if students are to assume responsibility for their own learning, they should be involved in many facets of program planning, implementation, and evaluation.

It also should be emphasized that, ideally, all personnel preparation programs should be personalized programs. Personalized (as differentiated from individualized) instruction is viewed as successfully accommodating individual differences in development, performance and motivation. Even if one assumes that developmental differences will be of negligible importance and if one ignores the importance of motivational

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[23]In this context, it is interesting to note that much more learning than formal instruction might take place in some classrooms. The whole discussion presented above is suggestive of the importance of focusing first on the question of when and how students learn and then considering what an instructor's role and function should be with reference to classroom learning.

factors, it is obvious that the program participants will differ in terms of immediate performance abilities, particularly with regard to the rate at which they become proficient enough to meet specific performance criteria. Clearly the problem of accommodating such differences in pace is eased in a flexibly scheduled, competence-oriented program as contrasted with a program which adheres to a rigid, formal course, unit, and hour format. Hopefully, besides differences in performance rate, other individual differences will be accommodated as well, e.g., special support for any participant who lacks a prerequisite skill. More generally, if a program is to be effectively personalized, it is probably important that the students and the instructors perceive themselves as participants in an educational enterprise which encourages innovation and continued experimentation. It is such a perception which contributes greatly to increased enthusiasm and additional expenditures of effort. In this sense personalized programs may be viewed as involving, in great part, an institutionalization of the Hawthorne effect. While the Hawthorne effect usually denotes a temporary and deceptive effect, there is no theoretical necessity for the positive attitudes and increased behavioral output which result from being part of an experimental program to be temporary or deceptive in nature. The personalized program lends itself to the inclusion of such phenomena as a stable and positive aspect of the learning situation. What is being advocated is not complete novelty or novelty for its own sake, but a continuing emphasis on innovative practices to help elicit and maintain instructor and student interest and effort. What could be more appropriate in a program designed to

prepare change agents.[24]

These points aside, the major tasks involved in implementing instruction are (1) the initiation of planned instructional activity, (2) ongoing assessment of instructional activity, and (3) modification and ongoing management of instructional activity. The discussion here is limited to a paragraph summary of what is involved in the ongoing management of instructional activity. The reader is referred to Adelman (1973a) for a fuller discussion of the various facets of program implementation.

Ongoing instructional management can be viewed as involving two major concerns. One concern is how to structure the environment in a way which is compatible with the fostering of each involved person's desire and ability to learn or perform. A second concern is how to interact effectively with pertinent others, both within and outside the program.[25] (In dealing with such concerns it is well to recognize that efforts to overcome the various problems which arise include not only

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[24]Schalock and Garrison (1973) suggest that seven conditions must be met before a preparatory program becomes genuinely personalized: (1) person-to-person experience must be planned; (2) a variety of instructional-learning options must be available to meet individual needs; (3) students must participate in the design of their own programs; (4) students must participate in the design and development of the overall program; (5) there must be a mechanism, such as sponsorship, negotiation or performance contracting, for the personalization process; (6) students and staff attitudes must permit personalization; and (7) assessment must be consistent with personalization.

[25]Besides the obvious interactions with program participants, it should be noted that persons responsible for ongoing program management may interact within the program (1) with persons in positions of authority above them, (2) with persons in peer roles, and (3) with persons in subordinate roles. The major interpersonal interactions outside the program which appear pertinent include members of such groups as professionals in other fields and disciplines, government personnel, community leaders, and so forth.

the direct resolution of a problem, but also include compensating for or tolerating a particular difficulty.) As can be seen in Table 1, discussion of ongoing management can be oriented around three topics (sub-sub-areas for instructional focus)--materials, methods, and behavior settings. This part of the outline, expanded to include key sub-facets of each of these topics, is presented in Table 3. Each of these sub-facets deserves extensive discussion. However, such discussion is beyond the scope of this paper. It must suffice here simply to emphasize that such management requires capitalizing on what is known about learning, behavior, and instruction with specific reference to such matters as: (a) motivation, (b) attention, (c) performance and practice, (d) reinforcement, (e) interpersonal relationships, (f) growth and development, and (g) a particular curricular area (see Adelman, 1973a).

Program Evaluation. Essentially, the model which we use as a basis for designing our evaluative efforts is an adapted version of Stake's (1967) model for evaluating educational programs. Elsewhere, I have summarized this model and have presented a conceptualization of the key factors and critical problems related to evaluating personnel preparation programs (Adelman, 1973a).

Within the limitations set by the problems which permeate program evaluation efforts, any program should attempt to evaluate as wide a range of impact as possible using procedures and standards which allow for objective and generalizable conclusions. For example, a comprehensive evaluation might encompass an investigation of the program's impact

TABLE 3

Outline of Areas for Instructional Focus with Specific Reference to the Ongoing Management of Program Activities (Derived to the Fourth Level)

VII. Program Implementation

D. Ongoing Management of Program
   1. Materials (medium - message)
      a. Display
      b. Distribution
      c. Special Techniques for Specific Materials
   2. Methods (Procedural Models - Activities - Techniques)
      a. Facilitating Activation of Participants
      b. Facilitating Focused Behavior
      c. Facilitating Initiation of Activity
      d. Facilitating Maintenance of Participation
      e. Facilitating Appropriate Communication between Participants Regarding Results
      f. Strengthening Preceding Learning and Performance Patterns
   3. Behavior Settings (Organizational Format - Type, Locale, and Scope - Climate)
      a. Authority Relationships
      b. Peer Relationships
      c. Intellectual Climate
      d. Emotional Climate
      e. Moral Climate
      f. Physical Environment

on (1) the participants, (2) the pupils who are served directly and indirectly as a result of the efforts of the program's participants and graduates, and (3) the field in general. The primary emphasis in such an evaluation should be on describing and judging the congruence between stated instructional objectives and what is accomplished, but there also should be an investigation of possible major (positive and negative) side effects.

To be more specific about the nature and scope of such evaluative efforts, an investigation of the program's impact might focus on:

1) the participants with particular reference to (a) the acquisition of new competence (knowledge, skills, and attitudes), e.g., new teaching procedures, and (b) the modification of existing competence, e.g., acceptance of personal responsibility for acquiring needed competence, involvement in the field;

2) the pupils whom they serve with particular reference to (a) the remediation of underlying process deficits, interfering behaviors, or both, e.g., perceptual deficits, extreme withdrawal and passivity, (b) the acquisition of needed prerequisites, e.g., attending, listening, (c) achievement in basic school subjects, e.g., reading, language, mathematics, and (d) relevant other behaviors and attitudes, e.g., self-direction, self-evaluation, inter-student cooperation, interests, values, feelings toward school;

3) the field with particular reference to (a) the number of professionals, paraprofessionals, and recruits who are influenced directly and indirectly, (b) effects on specific school districts and communities which probably would not have occurred if the program did

not exist, e.g., changes in policies and practices related to classroom methods and materials, staffing, in-service training, and so forth which were facilitated by the program's staff, students, and/or graduates, (c) effects on specific institutions of higher education, e.g., changes in policies and practices related to pre-service training, and (d) effects on educational thought in general, e.g., changes in conceptualization regarding the purposes and processes of formal education.

Some of the key steps in evaluating (and studying) educational programs are seen as follows:

1) In studying or evaluating educational programs, it is important to start with a detailed understanding of the problem, hypotheses, evaluation need, etc.

2) With a clear understanding of the "problem" being addressed, it generally is possible to translate such a problem into a set of major questions which should be answered, e.g., How effective are teachers in a particular school with reference to teaching reading? Do kindergarteners with perceptual-motor problems have more difficulty learning to read than those without such problems?

3) As a first step in answering questions which have been formulated, it is necessary to specify the relevant descriptive data (intended and unanticipated outcome, transactional, and antecedent variables) which have a bearing on the questions (e.g., see Adelman [1973a] for a description of some key variables).

4) After specifying the data, it is necessary to specify the procedures which can be used to gather such data. As a brief summary, it may be noted that pertinent data can be gathered by employing rating

scales (Likert and Guttman scales), checklists, questionnaires, and surveys, objective and projective tests, essays, semantic differential, Q sorts, anecdotal records, systematic analyses of products and performance, systematic records of specific accomplishments, directly solicited evaluations, measures of elements of such constructs as anxiety, locus of control, independence and self-control, expectations and aspirations, and so forth. (Obviously, whenever possible, standardized procedures should be used.)

With reference to conceptualizing the potential measures which might be used, Popham (1971) has suggested the consideration of two dimensions: "(1) the measurement stimulus situation and (2) the type of . . . response required." As he states, a response can be observed and measured under either natural (e.g., classroom social interactions) or manipulated (e.g., test situations) conditions, and such responses can be either a product (e.g., an essay) or direct behavior (e.g., reading aloud). With reference to the two types of responses, it should be emphasized that (a) products will be the result of selecting from alternatives (e.g., multiple choice questions) and/or the construction of a response (e.g., an essay); (b) behavior can be recorded (visually and/or auditorily) for later analysis; (c) the focus may range from "molar" to "molecular" responses; and (d) the response may or may not be made anonymously. In addition, it may be noted that many measures have a "reactive" effect, and, therefore, unobtrusive measures should always be considered and given high priority.[26]

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[26]The two most critical considerations with reference to the measures selected, of course, are the degree to which they can be used to produce

The types of people who can provide the desired data may range from individuals involved in a particular program to representatives of a variety of external interest groups, institutions, and agencies. The most likely sources are a program's students and instructional, administrative, and support staff; qualified, impartial individuals who are not affiliated with the program; members of policy making and other interest groups; relatives of students; and subsequent employers and colleagues.

5) In addition to designating the procedures to be used in gathering the desired data, it also is necessary to specify the design to be used. In this connection, see Campbell and Stanley (1971) for discussion of pre-experimental, experimental, and quasi-experimental designs (e.g., the one shot case study, the one-group pretest-posttest design, the static group comparison, the pretest-posttest control group design, the posttest-only group design, the time-series experiment, counterbalanced designs). The design (and measures) chosen should be based, to a great extent, on decisions regarding the type of standards which one wants to use in judging the descriptive data which is to be gathered, e.g., whether the standards used are to be relative (norm referenced) or absolute (criterion referenced).[27]

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reliable data (e.g., over time, over situations, between raters) and the degree to which such data has validity (e.g., content validity, predictive validity).

[27]To clarify this point further, it may be noted that the nature and scope of the sample(s) ("responders") are critical considerations, e.g., too small samples or non-representative samples can result in means and standard deviations which are poor approximations of the parameters of populations which are to be compared; the absence of appropriate comparison (control, contrast) groups can make it virtually impossible to use collected data to answer questions which may be of major concern; and so forth.

As the examples offered in this section suggest, programs which prepare educators can and should be evaluated on many levels. In addition, it should be evident that the concerns, issues, and problems related to evaluating personnel preparation programs in both general and special education are not substantively different and that the process of evaluating such programs is in its early developmental stages. In view of this state of affairs, I repeat and re-emphasize the point that, in determining whether satisfactory levels of competence have been attained to warrant certification, a reasonable strategy would seem to be that of evaluating at appropriate times complex, major behavioral outcomes, e.g., the instructional plan for a week, the installation of a new approach to reading instruction, a critique of a research article, and so forth. And in judging the adequacy of such behavior, it seems we will have to rely on a combination of expert judgement and relative comparisons (e.g., among program participants) until we finally establish, empirically, some appropriate standards.

More generally, I would suggest that until there is a more definitive body of knowledge in the field and further development with reference to the processes by which we prepare professionals and evaluate such preparation, it seems unlikely that personnel preparation programs can be evaluated very satisfactorily. Nevertheless, such programs must be evaluated, and those responsible for the programs should be held accountable. However, the term accountability must not be interpreted simplistically. At this time, appropriate program evaluation in special education requires more than the systematic collection of immediate achievement and cost accounting data. In particular, it

is felt that programs which prepare personnel such as change agents should be evaluated comprehensively in terms of their general contribution to current educational services, training, and research, rather than in terms of such narrow criteria as pupil achievement in the "3 R's" or per capita cost with reference to immediate pupil benefits. Clearly, there is a great deal which still must be learned about educating exceptional individuals, preparing professionals, and evaluating educational programs; we cannot afford to ignore the implications of these needs in the rush to establish strategies for accountability.[28]

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[28]See Adelman (1973a) for a general discussion of personnel certification.

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Appendices

Appendix A

Brief Summary of Expert Views Regarding Change Agent Characteristics, Attitudes, Knowledge, and Skills

Descriptions of what constitutes an effective change agent range from statements which emphasize individual change agent styles to a specification of attributes which sound saint-like. This phenomenon appears to occur whenever experts attempt to describe education professionals, be it a description of a classroom teacher or a school district superintendent. In reading the following statements regarding change agents, readers should ask themselves: Is the statement unique to change agents or is it shared by other educational professionals, e.g., classroom teachers?

Rogers and Shoemaker (1971) list a number of positive attributes related to change agent effectiveness derived from the research literature, i.e., effective change agents expend extensive effort, are perceived by clients as being empathetic, credible, and as having higher social status; in addition, they have a higher degree of education and literacy, a cosmopolite orientation (characterized by gregariousness and fairly extensive contacts with persons and organizations extrinsic to one's current role and work setting), and have a homophily with clients (defined by Rogers as "the degree to which pairs of individuals who interact are similar in certain attributes"). Havelock and Havelock (1973) report that the experts who attended the Michigan Conference on Educational Change Agent Training suggested some of the following attitudes, knowledge and skills:

1) Attitudes

"Primary concern for benefit of the ultimate user (usually students and communities in the case of education).
Primary concern for benefit of society as a whole.
Respect for strongly-held values of others.
Belief that change should provide the greatest good to the greatest number.
Belief that changees have a need and a right to understand why changes are being made (rationale) and to participate in choosing among alternative change means and ends.
A strong sense of his own identity and his own power to help others.
A strong concern for helping without hurting, for helping with minimum jeopardy to the long- or short-term well-being of society as a whole and/or specific individuals within it.
Respect for existing institutions as reflections of legitimate concerns of people for life space boundaries, security, and extension of identity beyond the solitary self."

2) Knowledge

"That individuals, groups, and societies are open inter-relating systems.
How his role fits into a larger social context of change.
Alternative conceptions of his own role now and his potential role in the future.
How others will see his role.
The range of human needs, their inter-relationships and probable priority ranking at different stages in the life cycle.
The resource universe and the means of access to it.
The value bases of different subsystems in the macro-system of education.
The motivational bases of different subsystems in the macrosystem.
Why people and systems change and resist change.
How people and systems change and resist change.
The knowledge, attitudes, and skills required of a change agent.
The knowledge, attitudes, and skills required of an effective user of resources."

3) Skills

"How to build and maintain change project relationships with others.

How to bring people to a conception of their priority needs in relation to priority needs of others.
How to resolve misunderstandings and conflicts.
How to build value bridges.
How to convey to others a feeling of power to bring about change.
How to build collaborative teams for change.
How to organize and execute successful change projects . . .
How to convey to others the knowledge, values, and skills he possesses.
How to bring people to a realization of their own resource-giving potential.
How to expand people's openness to use of resources, internal and external.
How to expand awareness of the resource universe.
How to work collaboratively (synergistically) with other resource systems.
How to relate effectively to powerful individuals and groups.
How to relate effectively to individuals and groups who have a strong sense of powerlessness.
How to make systemic diagnoses of client systems and how to generate self-diagnosis by clients."

As Havelock and Havelock (1973) indicate, these lists are "too general to constitute behaviorally specific outcomes." Nevertheless, such lists may be helpful in various facets of program development.

Before concluding, it should be noted that most of the knowledge, skills, and attitudes listed could be grouped under three categories of functions which are the concern of most education professionals, namely, efforts to systematically plan, implement, and evaluate programs for (1) direct service, (2) training, and (3) advancement of the field. (A few of the listed items simply are "tools" needed for learning and daily functioning.) As I have suggested elsewhere, there is a great commonality of needs among various educational professionals (Adelman, 1973).

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Appendix B

Materials from the Pilot Program

1. Five Areas of Instructional Concern--An Outline
2. A Pragmatic List of Intended Instructional Outcomes
3. Handout--Introduction to the Program
4. Expanded Outline Plan for Research Area
5. M.A. Comprehensive Questions

Five Areas of Instructional Concern

DEFINITIONS, LONG RANGE GOALS AND GENERAL ABILITIES

Assessment

I. Definition

Assessment may be viewed as a process by which an individual attempts to understand himself and other individuals in order to describe, predict, explain, and make decisions.

II. Long-Range Goal

The individual should develop an understanding of the uses, limitations, and abuses of assessment, including the ability to employ and interpret relevant formal and informal assessment procedures and to derive implications from assessments made by others.*

III. General Abilities

Observational and "testing" ability

(i.e., knowledge regarding the importance of and how to gather, systematically and in situ, information relevant to one's own effectiveness and to a particular pupil's general behavior and academic functioning)**

Interpretative ability

(i.e., knowledge regarding how to analyze and evaluate systematically the meaning of observational and test data)***

*The reason for learning to be able to derive implications from assessments made by others is that many school counselors, psychologists, and physicians report findings without clarifying the implications for school practices. Therefore, every professional educator should be equipped to interpret some of these findings even though he may not have been taught how to administer a particular assessment procedure, e.g., intelligence tests. It is recognized, of course, that some procedures are only appropriately interpreted by the professionals who administer them.

**Such ability should include the competencies required for determining (a) the appropriate level for instructional focus--i.e., whether the focus is to be on basic school subjects, prerequisites to school learning, pathological behaviors, and/or underlying process deficits, (b) what specifically should be taught at that level, and (c) what out-of-the-classroom steps should be taken to facilitate learning and performance.

***The instructional implications one derives from such data are dependent, of course, on one's knowledge of what is involved in school-related learning and performance, e.g., understanding the prerequisites a youngster must acquire before he can function effectively in learning a particular school subject.

Program Planning and Implementation

I. Definition

Program planning and implementation may be viewed as a process by which an individual purposively and appropriately utilizes available resources, especially people and materials

II. Long-Range Goal

The individual should develop the ability to formulate, initiate, and/or participate in activities, in and out of the school setting, which purposively and appropriately facilitate learning for each pupil

III. General Abilities

Basic instructional ability

(i.e., knowledge regarding the importance of and how to personalize classroom instruction to allow for the wide range of developmental, motivational, and performance differences which exist in every classroom)*

Curriculum ability

(i.e., knowledge regarding the importance of and how to develop, select, adapt, apply, and evaluate the impact and role of methods and materials which are relevant to mastery of basic learning and performance skills and for sensory, perceptual, motoric, cognitive, language, social, and emotional growth and development)

Classroom management ability

(i.e., knowledge regarding the importance of and how to structure a classroom of students in a way which is compatible [does not conflict] with the fostering of each youngster's desire and ability to learn and perform and the ability to detect current and potential behavior problems and correct, compensate for, and/or tolerate such deviations)

Interpersonal ability

(i.e., knowledge regarding the importance of and how to interact effectively with pertinent others, both in and out of school)**

Self-corrective ability

(i.e., knowledge regarding the importance of and how to gather and utilize evaluate feedback assessment information to enhance personal and professional effectiveness)

*The focus here is both on the competencies needed for dealing with the majority population and those required for coping with "exceptional" individuals.

**Besides the obvious interactions with pupils, the interpersonal interactions within the school system may be viewed as occurring on three levels, i.e., interactions between an individual and (1) those who are in positions above him (e.g., supervisors, administrators), (2) those in positions comparable to his (e.g., other teachers, counselors, consultants), and (3) those who are in training or have paraprofessional positions (e.g., aides). The major interpersonal interactions outside the school system which are involved directly with instruction, of course, are seen as centering around family members and other professionals (e.g., physicians, psychologists).

Consultation

I. Definition
Consultation may be viewed as a process by which an individual attempts to assist a colleague's efforts to assess and solve a problem purposively and appropriately

II. Long-Range Goal
The individual should increase his breadth and depth of knowledge and skill with reference to assessment and program planning and implementation*

III. General Abilities
No substantively new abilities are needed--only an increase in the level of competence in areas already listed

*Success in this area is positively correlated with the individual's depth and breadth of knowledge and skill in these areas, especially with reference to interpersonal ability since the consultant must be able to interact in a nonthreatening, task-oriented, and task-productive manner.

Supervision

I. Definition
Supervision may be viewed as a process by which an individual critically analyzes, evaluates, and guides programs and personnel in order to facilitate the improvement of the programs for which he is responsible

II. Long-Range Goal
The individual should increase his breadth and depth of knowledge and skill in the areas of assessment, program planning, and consultation. (Some supervisory positions require administrative functions, in such instances, programs should allow for the development of such skills)

III. General Abilities
No substantively new abilities are needed--only an increase in the level of competence in areas already listed (except in those instances where specific administrative duties such as budget preparation, are part of the supervisor's functions)

Research

I. Definition
Research may be viewed as a process by which new facts are discovered and accepted conclusions are supported, rejected, and/or revised

II. Long-Range Goals
The individual should develop the ability to be a critical consumer and a responsible and effective producer of research

III. General Abilities
Consumer ability
(i.e., knowledge regarding the importance of and how to evaluate research findings which have implications for one's work)
Participant ability
(i.e., knowledge regarding the importance of and how to assist and/or initiate school-related studies)

A Pragmatic List of Intended Instructional Outcomes

Each of the outcomes listed below was formulated to facilitate our efforts directed at (1) specifying the set of related observables encompassed by our goal-constructs and (2) grouping sub-sets which are appropriate instructional objectives. Thus, their wording is more reflective of the pragmatic use for which they were developed than of the type of conceptual model we are trying to evolve.

The intention of the program is to facilitate the acquisition by each program participant of the following:

I. The ability to verbalize in a systematic and conceptual manner
   a) basic concerns confronting the field of education,
   b) the special task of special education,
   c) various causes and correlates of school learning problems,
   d) the sub-steps involved in the process of planning, implementing, and evaluating (including assessment) the various types of educational programs;[1]
   e) similarities and differences in the processes of planning, implementing, and evaluating the various types of educational programs;
   f) major issues and problems related to planning, implementing, and evaluating the various types of educational programs;
   g) a general process by which one can evaluate critically the literature which has implications for the education of pupils and education personnel;
   h) additional considerations which must be understood if one is to evaluate critically:
      1. an article reporting findings and implications of a research study;
      2. an article reviewing the research literature in a given area;
      3. a theoretical or conceptual article;
      4. a polemic on the state of the field;
      5. an article dealing with learning disabled pupils.
   i) the importance of program planning and program evaluation and of research in education.

II. The ability to: and III. The desire to:
   a) plan, implement, and evaluate (including assessment) classroom instructional programs for pupils not only in the general population, but for pupils who manifest learning/behavior problems;

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[1]For our purposes, educational programs = (1) school programs for the general population and for the population of pupils with learning/behavior problems; and (2) preparation programs for education personnel.

b) plan, implement, and evaluate a program for preparing education personnel to impact not only on pupils in the general population, but also on pupils who manifest learning/behavior problems;
c) find and utilize relevant writings (research, etc.) which have implications for one's work;
d) participate in school-related empirical investigations.

Introduction to the Program

This is the beginning of our experimental Master's degree program which will employ a non-traditional model of training and will prepare personnel who are equipped not only to provide direct services for pupils, but who also are able to assume a leadership role with reference to pre- and in-service teacher education. In this connection, program participants will learn innovative classroom practices, as well as innovative approaches for teaching such practices to teachers in the field and to prospective teachers. A particular emphasis in the program will be on practices which enable teachers to provide effective programs for pupils with learning and behavior problems.

This program is particularly well-suited to prepare personnel for the District's proposed experimental in-service program which would be implemented during the academic year 1972-73. This program would employ teachers who have been specially trained to assume a leadership role in the in-service education of other teachers. While the initiation of the new program is not certain at this time, the District is proceeding under the assumption that it will be implemented. It is clear, however, that even if the program is not initiated, those teachers who successfully complete the year of training will have benefited both by improving their level of teaching competency and by the acquisition of a Master's degree.

On the following pages are some notes which have resulted from our planning sessions to date. It should be emphasized, however, that this will be a year of experimentation (innovation, trial and error). Nothing that we have planned to date is sacrosanct. We will all be working together to plan, develop, implement, and evaluate a program which can serve as a model for others. We can anticipate some problems in the process, but, hopefully, the rewards will far exceed the frustrations. We have the unique and exciting opportunity to develop something new and important; our success or failure is dependent only on our own desire, energy and goodwill.

I. Assessment

Long-Range Goal--Can effectively and efficiently collect and interpret information about children in order to modify or develop programs and procedures.

Primary Competencies

I. Can assess individual and group needs, interests, etc.

II. Can verbalize the importance (uses, limitations and abuses) of assessment.

III. Can assess impact of program with a view to planning change.

Focusing Questions

1. What is assessment?
2. Why do any assessment at all?
3. If I am doing assessment, what do I want to know?
4. How can I find it out?
5. What information do I already have?
6. Is what I found by assessing valid?
7. What are the most economical and accurate ways to assess?
8. Did I need the information? Was the assessment meaningful?
9. What is the relationship between assessment and evaluation?

II. Program Planning and Implementation

Long-Range Goal--Can effect positive changes in classrooms as measured by attitudinal and achievement changes in learner(s).

Primary Competencies

I. Can effectively aid individual and group in selection/prescription of programs for study.

II. Can effectively implement programs planned for groups and individuals.

III. Following the implementation of the program, can effectively plan and implement needed change, based on assessment of feedback.

Focusing Questions

1. How does your assessment information affect your program planning?
2. What constitutes a program?
3. What makes a program successful or unsuccessful?
4. How do you plan a program?

III. Consultation and Supervision

Long-Range Goal--Can communicate effectively with people about problems and help them learn to solve those problems.*
(*Problem = Increasing the educational opportunity for individual children.)

Primary Competencies

I. Awareness of Self.
   - A. Understand one's underlying personal (internal) motivations.
   - B. To know how one is perceived by others.
   - C. To know strengths and weaknesses and limitations.
   - D. Ability to self-evaluate.

II. Awareness of others.
   - A. Ability to tell what message has been received by another.
   - B. Sensitivity to needs of others--be able to know him personally and professionally.

III. Program Planning and Implementation as related to Consultation.
   - A. Can participate in and facilitate group processes (particularly in relation to school related issues).
   - B. Can learn a new practice, implement it, and teach others to use it.
   - C. Knows a variety of solutions to problems (can verbalize) and how to implement them.

D. Can verbalize the distinction between consultation and supervision.

Focusing Questions

1. What allows a consultant to be effective?
2. Can you train a person to be a consultant?
3. What allows (and encourages) a consultant to continue to be effective after initial encounters?

IV. Research

Long-Range Goal--The individual will develop the ability to be a critical consumer and a responsible and effective producer of research.*

(*The focus will be on any relevant literature which has implications for one's work; a major focus, however will be on empirical articles.)

Primary Competencies

I. Consumer Ability.
   - A. Can verbalize the importance of research to the field of education.
   - B. Can evaluate research reports which have implications for his work.
   - C. Can find and utilize research reports which have implications for his work.
   - D. Wants to find and utilize research reports which have implications for his work.

II. Participant Ability.
   - A. Can verbalize the importance of assisting in school-related studies (especially program evaluation).
   - B. Is able to participate in school-related studies (especially program evaluation).
   - C. Does participate in school-related studies (especially program evaluation).
   - D. Wants to participate in such studies.
   - **E. Is able to initiate school-related studies.
   - **F. Does initiate school-related studies.
   - **G. Wants to initiate school-related studies.

(**Not an objective of the current pre-service program.)

Focusing Questions

1. Cochran, Mosteller, and Tukey (1954) ask: "If we admit the presence of systematic errors (in measurement and sampling) in essentially every case, what then distinguishes good inquiry from bad?
2. In reading a report of research, what does one need to know in order to determine whether the results and implications are reliable and valid?
3. What factors should be taken into account in evaluating educational programs and what problems arise?

Expanded Outline Plan for Research Area

Long-Range Goal--the individual will develop the ability to be a critical consumer and a responsible and effective producer of research.[1]

Primary Competencies

A. Consumer Ability
   1. can verbalize the importance of research to the field of education
   2. can evaluate research reports which have implications for his work
   3. can find and utilize research reports which have implications for his work
   4. wants to find and utilize research reports which have implications for his work

B. Participant Ability
   1. can verbalize the importance of assisting in school-related studies (especially program evaluation)
   2. is able to participate in school-related studies (especially program evaluation)
   3. does participate in school-related studies (especially program evaluation)
   4. wants to participate in such studies
   *5. is able to initiate school-related studies
   *6. does initiate school-related studies
   *7. wants to initiate school related studies

(*Not an objective of the current pre-service program)

Focusing Questions

1. Cochran, Mosteller, and Tukey (1954) ask: "If we admit the presence of systematic errors (in measurement and sampling) in essentially every case, what then distinguishes good inquiry from bad?
2. In reading a report of research, what does one need to know in order to determine whether the results and implications are reliable and valid?
3. What factors should be taken into account in evaluating educational programs and what problems arise?

a. Content and concepts

To be an intelligent consumer, the teacher should know certain ideas related to (1) design, (2) measurement, (3) analysis, and (4) interpretation,

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[1]The focus will be on any relevant literature which has implications for one's work; a major focus, however, will be on empirical articles.

and should know the variables and problems associated with (5) program evaluation.

1) Design

A) Internal validity
- (1) history and maturation
- (2) testing effects
- (3) instrumentation
- (4) statistical regression
- (5) experimental mortality
- (6) selection-maturation interaction

B) External validity
- (1) reactive or interactive effect of testing
- (2) interaction effects of selection biases and the experimental variables
- (3) reactive effects of experimental arrangements
- (4) multiple treatment interference

(A handout needs to be developed to clarify each of the above; it should be noted that the above ideas encompass problems related to sampling, appropriate comparisons, calibration of a measuring instrument, Hawthorne and halo effects, and changes in observers' scores)

The above conceptualization is from:
Campbell and Fiske, Experimental and quasi-experimental designs for research pp. 5-6

An easier to read discussion of design is found in:
Skager and Weinberg, Fundamentals of educational research pp. 77-89

2) Measurement	(points to be discussed)
A) The need for measurement (Why measure?)	Progress and accountability.
B) Measurement procedures (How things are measured?	Tests, questionnaires, interviews.
C) Reliability and validity	Reliability concerns the congruence among responses measured under maximally similar stimulus conditions. Validity, in contradiction to reliability, requires convergence between responses to maximally different, independent stimulus conditions or measures.
D) Problems related to measurement	

Again, Skager and Weinstein's book is a helpful resource--see ch. 5 pp. 101-125.

3) Analysis	(points to be discussed)
A) Measures of central tendency	mode, median, mean.
B) Measures of dispersion or variability	range, standard deviation.

C) Correlation and prediction (How well do they go together?) — relationships, and cause and effect.
D) Significance of differences (How different are they?) — $t = \frac{X_1 - X_2}{\text{pooled variability (noise)}}$
E) Percentile

The above can be found in most basic texts in educational psychology, measurement, research, and so forth. Some of this is in Skager and Weinberg, pp. 89-98. Another helpful source is Wilson, Robeck, and Michael, Psychological Foundations of Learning and Teaching. Part VI (Measurement and Evaluation).

4) Interpretation/inferences
   A) Reliability
   B) Internal and external validity
   C) Meaningfulness and/or appropriateness of question or problem area
   D) Justifiability of conclusions and implications
   E) Alternative conclusions and implications

5) Evaluation
   A) A model of evaluation — Stake's model (also might look at Metfessel and Michael paradigm [pp. 462-463] in Wilson, Robeck, & Michael).
   B) Problems related to evaluation — Adelman's article.

b. Skills and Behaviors

1) Reading and interpreting tables and graphs

Covered in Wallis and Roberts pp. 270-79. Also in Research Methods: Readings pp. 418-

c. Awareness and attitudes

1) other evaluation models — see Popham-Stake
2) AERA and other relevant associations
3) Library resources, pertinent journals, reviews — partly covered by Skager and Weinberg
4) Sources of financial support
5) Research and humanistic goals

EXPERIENCES

1) Read (buy Skager & Weinberg or comparable resource--HANDOUTS, library)
2) Discuss in class (lecture, questions and answers--Ted Nickel, guest)
3) Discuss with each other

4) Apply to an article (sometimes self-chosen--in which case emphasis is on finding resources which have implications for one's work--sometimes assigned)

(The pattern and sequence would be (a) read and discuss design concepts during a particular week, then (b) apply these concepts over the next week or two, then introduce measurement concepts, repeating pattern, and so forth)

Spiraling through the year they

5) will be participating in the program evaluation (and this can be used as a point of focus in learning about evaluation)

6) can, if they desire, participate in a research study.

PROGRAM EVALUATION

1) Critique an article pre- and post
2) include relevant items on questionnaires (including rating scales)
3) maybe test (e.g., a comprehensive question)

M.A. Comprehensive Questions

These questions were formulated specifically to meet the needs of this year's program. Each participant must pass the written comprehensives to qualify for the M.A. degree according to university regulations. Besides meeting university requirements, the responses were useful products demonstrating the participants' verbal competence.

COMPREHENSIVE QUESTIONS

I. Questions on program planning, implementation, and evaluation

1. Describe in a systematic and conceptual manner, the process of planning, implementing, and evaluating a program of classroom instruction and then list and discuss the major issues and problems related to such program planning, implementation, and evaluation. (Be certain to discuss the role of assessment in this process.)
2. According to Popham and Baker in their book, Systematic Instruction, the difference between the kinds of objectives that educators developed in the past and those that they are now being urged to develop is that in the past the objectives were so general as to provide "no explicit guidance for the teacher, either with respect to the selection of instructional sequences or to the evaluation of these sequences." These writers feel that: "In order to provide such guidance, it is necessary for the professional teacher to describe his objectives in terms of measurable learner behaviors--that is, in terms of what the learner can do or how he will act at the conclusion of instruction. Objectives stated in this way will leave little doubt about what the teacher's instructional intentions are."

   Defend or argue against this view and then discuss the implications of the position you have taken for the processes of (a) planning a program of classroom instruction, (b) pre-instructional pupil assessment, (c) program implementation, and (d) program evaluation. (Be certain you don't think strictly in terms of instruction with reference to the cognitive domain.)
3. You are assigned to teach a sixth grade class next year:
   (a) describe what some of the major instructional objectives should be in the area of reading (i.e., describe the intended outcomes of your program);
   (b) explain the rationale which provided the basis for choosing these particular objectives (instead of some others) and why you have stated them as you have;
   (c) describe what should be done to accomplish these objectives and explain why (i.e., indicate the types of learning activities the

pupils would experience, the procedures which would be used for pupil assessment and for pupil and program evaluation);
(d) describe how such a program will accommodate pupils who manifest school learning problems. (Even if you have already made reference to this matter, respond here.)

II. Questions on supervision and consultation

1. Describe in a systematic and conceptual manner, the similarities and differences in the processes of planning, implementing, and evaluating (a) a teacher education program and (b) a public school classroom program. List and then discuss the major issues and problems which are encountered in planning, implementing, and evaluating a teacher education program.
2. According to Sarason in his book, The Culture of the School and the Problem of Change, "Good ideas and missionary zeal are sometimes enough to change the thinking and actions of individuals; they are rarely, if ever, effective in changing complicated organizations (like the school) with traditions, dynamics, and goals of their own. To change complicated settings requires, initially at least, a way of thinking not the same as the way we think about changing individuals."

   Defend or argue against this view and then discuss the implications of the position you have taken for the process of introducing major programmatic changes into a school district.
3. You have been employed as a "change agent" by a school district. The superintendent indicates that he has been very impressed by the social studies program at "Impressive Elementary School." He assigns you the task of finding a way by which other schools in the district will change their social studies programs so that they are effectively offering a social studies program based on the one at "Impressive Elementary School."

   (a) Describe the way a change agent should go about implementing and evaluating a program which will result in such changes.

   (b) Explain the rationale which provided the basis for choosing these particular procedures instead of others.

   (c) What types of problems should a change agent anticipate encountering and how will the procedures you have described above help to overcome such problems?

III. Questions related to critical reading of the education literature (especially research)

1. With reference to the literature which has implications for the education of pupils and teachers, describe in a systematic and conceptual manner the general process by which one can evaluate critically what one reads. Then, clarify any additional problems which must be considered if one is to evaluate critically:

   (a) an article reporting the findings and implications of a research study;

   (b) an article reviewing the research literature in a given area;

(c) a theoretical or conceptual article;
(d) a polemic on the state of the field;
(e) an article dealing with learning disabled pupils.

2. Cochran, Mosteller, and Tukey (1954) in "Principles of Sampling", Journal of the American Statistical Association, 49, 30-35, 1954,* ask: "If we admit the presence of systematic errors (in measurement and sampling) in essentially every case, what then distinguishes good inquiry from bad?"

   Answer this question and discuss what your answer suggests with reference to the use of ideas and conclusions derived from much of the literature which is meant to have implications for the education of pupils and teachers.

3. Read and critically evaluate the following article. (To be supplied at the time of the exam.)

*Reprinted in Franklin and Osborne, Research Methods: Issues and Insights, Wadsworth Publishing Co., 1971.

Appendix C

An Abstract of "Alternative Training Models," Part Two in R.G. Havelock and M.C. Havelock, Training for Change Agents.[1]

As part of the Michigan Conference on Educational Change Agent Training, a number of alternative models of training for different concepts of "change agent" were delineated. Ten task force reports were produced and are grouped into four general categories of programs: (1) programs to train school systems to develop a self-renewal capacity, (2) programs for change agent linkage of school systems to resources, (3) programs to effect political and structural changes in school systems, and (4) programs to improve the effectiveness of other educational agencies. In addition to the ten reports, the Havelock's present a more detailed model for training change agents in state education agencies.

The general framework provided for the delineation of the various models emphasized seven key design elements.

1. "define the change agent role and provide a rationale"
2. "preconditions for selection and training"
3. "outputs from training: knowledge and skills"
4. "ways to provide required training (e.g., timing, scheduling, types of materials, types of experiences)"
5. "criteria for success in the role"
6. "evaluation process"
7. "how to set the role in an institutional context."

No effort is made here to abstract what is said with reference to each of the above design elements. Rather, the intent is to highlight the type of personnel to be trained and their functions.

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[1]Published by the Center for Research on Utilization of Scientific knowledge, Institute for Social Research, University of Michigan, 1973.

Four General Categories of Models

I. Self-Renewal within the School System

Four reports are grouped under this category:

A. Edward Glaser and Max Goodson focus on "The School-Community Resource Team" and emphasize the training of a Research Utilitzation Specialist (RUS) to help school systems develop skills and mechanisms for change programs including the training of a team of key school personnel and community leaders to manage future change programs. Such a RUS is viewed as being a catalyst, process helper, knowledge linker, and adaptation-implementation helper.

B. Douglas Towne focuses on "The Knowledge Utilization Function/Role" and also emphasizes the training of a Research Utilization Specialist (RUS) as the knowledge linker between resources and school system users who help all school system personnel with knowledge utilization. It should be noted that ultimately Towne wants all educational personnel to be trained in knowledge utilization during the pre-service preparation program.

C. Paul Hood, Russell Kent, Donald Johnson, Louis Maguire, and Joe Ward focus on a "Minimal Training System for Self-Renewing Schools" and emphasize training all school personnel rather than a change agent.

D. Garry Walz, George Sproule, Marlene Pringle, and Jane Skinner focus on an "Integrated Model of Counselor Behavior" and emphasize the training of counselors in various settings to help schools and students by conducting system and individual diagnoses, conducting performance appraisals, advocating and initiating change and intervention,

providing linkages with resources, and conducting evaluations of their own role performance.

II. Linking Schools to Outside Resources

Two reports are grouped under this category:

A. William Wolf focuses on "The Knowledge Utilization Specialist Team and Leader" and emphasizes the training of such a team and leader to help local education agencies and institutions of higher education within a specified region (a la the county agriculture agent) by generating awareness of knowledge resources, communication channels, and client needs and helping to translate such awareness into action. The team leader is seen as being a staff member of the State Department of Education with knowledge of national and statewide agencies, resources, and power structures; the team members would focus more on local matters.

B. Betty Ellis, Elliot Spack, Charles Chandler, and James Beaird focus on "Teacher Trainers" and emphasize the training of a cadre of teachers (presumedly coordinated and directed by the State Department of Education to help practicing teachers by providing linkage with resources, diagnosis of the system, and support for those who are adopting/adapting innovations.

III. Effecting Political and Structural Change in Schools

Two reports are grouped under this category:

A. Kenneth Tye focuses on "The Political Linkage Agent" and emphasizes the training of such an agent to help equalize power in the school between the political system (administration and board of education) and user groups (community, teachers, and students) by acting as a process helper, catalyst, and solution giver.

B. Mark Chesler, Arthur Chickering, Per Dalin, Dale Lake, Matthew Miles, Everett Rogers, and Lucille Schaible focus on a "Change-Through-Crisis Model" and emphasize the training of individuals within the system to fill two types of change agent roles. They suggest a training team come to a system (school) in crisis, identity individuals who have provided leadership in past crises, and train them to be more effective. One type of change agent to be trained is an Advocator-Organizer-Agitator who would help define the systems problems. The second type of change agent to be trained is a Social Architect who is to help restructure the school system so that the defined problems can be solved.

IV. Changing the Larger System

Two reports are grouped under this category:

A. Kenneth Benne, David Bushnell, Norman Hearn, Edwin Hildebrand, Norman Kurland, and Robert Neiman focus on a "Macrosystems" model and emphasize the training of "Interface Agents" to help improve the relationship between two systems jointly involved in educational change (e.g., USOE and State Departments of Education). The agents would be a team chosen either from within both systems or from outside sources; they would help resolve conflicts, assist in goal setting and resource utilitzation, and attempt to improve on-going inter-system relationships.

B. Irving Millgate and Ronald Lippitt focus on a "Proposed Approach to Solve Dilemma" and emphasize "a program to improve the quality of the 'delivery' of services by the State Department of Education to local school systems." No change agent is trained. "All

personnel in the department work to: (1) identify quality services, (2) set goal images, (3) diagnose department problems, and (4) implement improvement alternatives.

"Sample Model of a Fully Developed Training Design" (Havelock and Havelock)

The model described was designed as a pilot program "to train and install a samll number of state education agency consultants as full time professional change agents. The program was conceived as a 10-day training sequence distributed over a one-year period with intervening reading and writing assignments and several types of on-the-job practice. . . . the program singles out particular individuals in a strategic location, the state education agency, as the 'change agents' who will become, over time, a core training staff for the agency and for the state system as a whole. In this sense, therefore, the proposed program is not the training of change 'agents' as much as it is for the training of trainers in change planning and managing skills."

"The program description is outlined as follows:

1. The Role
   a. Title
   b. Definition and General Description
   c. Rationale
   d. Limiting Assumptions
2. Trainee Candidate Qualifications for Participation
3. Anticipated Outcomes of Training
   a. Attitudes
   b. Knowledge
   c. Skills
4. The Training Procedure, including:
   a. Schedule
   b. Trainer and Trainee Preparation
   c. Readings
   d. Outline Descriptions of Training Units
5. Guidelines for Installation of Trainees in State Agency Positions
6. Suggested Criteria for Evaluating
   a. Training Transfer Effectiveness

b. Role Installation Effectiveness
c. Long-Term Benefit to Education

7. Suggested Alternative Procedures for Evaluating Training
8. Suggested Procedures for the Feedback and Utilization of Evaluative Data, so that the program can be systematically redesigned and improved from year to year."

A discussion of each of the above points is beyond the scope of this abstract; however, the features of the section on the training procedure should be noted. The training section encompasses:

a) a discussion of the schedule for the three training workshops held during the year and the in-between planning and in-service activities,

b) the basic reading list (annotated) for the program as a whole,

c) trainer and trainee workshop preparation checklists,

d) a discussion of the trainee notebook,

e) outline descriptions of the 12 units, including time allocations and activity specifications, e.g., specific descriptions of: assigned readings, lecture and discussion topics, written exercises, dyadic, triadic, and large group sharing and role playing, skill building exercises, case simulation exercises, films, directed discussion and posting.

"What Change Agents Should Know About Professional Associations"

Sidney Doros' report is featured in the Appendix of the Havelock's book. His paper is designed "to acquaint change agents in education with the use of power and dissemination functions of educational professional associations so that these might be utilized to effect change."

Doros categorizes three general groups of professional organizations: (1) general purpose teacher organizations, i.e., National

Education Association and the American Federation of Teachers; (2) administrative and other educational specialty organizations, e.g., American Association of School Administrators (AASA), Association for Supervision and Curriculum Development (ASCD), National Association of Elementary School Principals (NAESP), Department of Audiovisual Instruction (DAVI), American Educational Research Association (AERA); (3) subject area teacher organizations, e.g., National Council of Teachers of English, National Council of Teacher of Mathematics.

After categorizing the organizations, Doros discusses implications of these organizations for change agents and suggests some tips for working with such professional associations.